1924

SAWARD'S ANNUAL

By FREDERICK W. SAWARD

Compliments of the Author

SAWARD'S ANNUAL

A STANDARD STATISTICAL REVIEW OF THE COAL TRADE

Embracing Details Relative to Output, Prices, Freight and Wage Rates, Transportation, Exports, Trade Conditions, Computing Tables, and Other Details of Importance to the Coal Man, Wholesale and Retail

BY

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SAWARD'S JOURNAL

15 Park Row New York

1924

PRICE, $2.50 PER COPY

SIXTH YEAR

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PRINTED IN U. S. A.

TABLE OF CONTENTS

A

Accidents, notable mine..... 158
Africa, coal production..... 162
discovery of coal in Southwest..... 212
exports to 147
Alabama production 61
Alberta, coal imports.....171, 187
Alden CM. Co., adv..... 213
Allegheny River, percentage of coal carried 86
Allowances for undersizing anthracite.. 88
American coal to France..... 177
coal to South America..... 153
vs. British exports..... 157
Analyses of anthracite..... 89
Welsh coal 147
Anthracite, allowances for undersizing 88
analyses of 89
average price of exports..... 159
British, exported 1906-23..... 178
census data on..... 84
coals, points of..... 254
companies, production 104
comparison with bituminous..... 254
consuming States, population..... 96
cubic area of..... 232
culm reclaimed by Girard Est..... 92
domestic sizes, distribution..... 87
exports by countries..... 165
exports by Customs districts..... 148
exports monthly 157
Geological fields 102
Girard Estate production..... 92
Government officials, increased cost of 95
impurities permitted in..... 86
industry, review of, 1923..... 80
Lehigh region, production..... 94
Lehigh region shipments..... 90
Lehigh region, sizes shipped..... 93
mining districts 102
normal distribution of prepared..... 88
Pennsylvania, explanatory 103
preparation 97
price of, through "Soo" Canal..... 252
prices, company 19
prices, f. o. b. mines..... 19
prices, independent 19
produced 1922 by regions..... 94
production, by counties..... 130
production by districts..... 104
production, value of..... 130
receipts at Boston..... 27
receipts at St. Louis..... 210
receipts in New England..... 79
record months 101
rise in prices..... 95
Schuylkill region, production..... 94
Schuylkill region, shipments..... 90
Schuylkill region, sizes shipped..... 93
shipments, by months..... 101
shipments by railroad routes..... 171
shipments by railroads..... 98
shipments by regions..... 90
shipments by sizes, 1911-22..... 94
shipments, Central RR. of N. J..... 98
shipments, Delaware & Hudson Co. 99
shipments, D., L. & W. RR..... 99
shipments, Erie RR..... 100
shipments, Lehigh & New England.. 100
shipments, Lehigh Valley RR..... 98
shipments, N. Y., C. & W. Ry..... 100
shipments, Pennsylvania RR..... 99
shipments, Phila. & Reading..... 98
shipments since outset..... 214
shipments tell the tale..... 101
shipments via "Soo"..... 250
shipped by washeries..... 93
shipped 1922 by regions..... 93
shipped 1922 by sizes..... 93
sizes 97
standard sizes 97
steady days in..... 91
steam sizes, trouble with..... 14
Sullivan County production..... 94
Sullivan County, shipments..... 93
tax on dredged coal..... 184
tidewater prices 91
to Canada, monthly..... 155
to Canada, 1903-23..... 150
to Middle Atlantic States..... 88
to New England, by states..... 88
trade names of..... 102
Virginia semi 168
wage agreement, text of..... 85
wage fixing increased cost of..... 95
wage increases 156
wonderful year for..... 13
Wyoming region, production..... 94
Wyoming region, shipments..... 90
Wyoming region, sizes shipped..... 93
Area, cubic, of various coals..... 232
Argentina, exports to..... 159
Arkansas, production 63
Arlington pier, capacity..... 132
pier, tonnage 18
Ashtabula, coal dumped..... 181
shipments 182
Asia, coal production..... 162
exports to 146
Atlantic Coal Co. of Mass. adv..... 223
Atlantic ports, bituminous shipments.. 70
ports, bunker tonnage..... 158

ports, coal pier capacities..... 132
ports, freight rates to..... 190

B

B. & O. RR. Co., capacity of piers... 132
freight rates to Atlantic ports..... 190
Ohio coal shipments..... 134
shipments 141
Baltimore, bituminous freight rates to. 193
bituminous shipments, tidewater..... 70
bunker coal at..... 54
bunker tonnage at..... 158
coal pier capacities..... 132
exports from 54
mine prices at..... 51
Beech Creek district, commencement... 68
Beehive coke production 1913-23..... 195
coke production by States..... 194
coke production, monthly, 1923..... 194
Belgium, British imports..... 73
Berwind-White CM. Co., adv..... 256
capacity of Harsimus pier..... 132
Beyond our pale, non-consuming territory 205
Bituminous, average price to Canada... 155
average price of exports..... 159
average price at mines..... 74
business, tidewater, destinations..... 70
coal exports to countries..... 145
coal mined by hand..... 73
coal mined by machinery..... 72
coal mining methods..... 73
coal, points of..... 254
coals shipped by railroads..... 218
comparison with anthracite..... 254
consumption per capita..... 195
cost of storing 209
cubic area of..... 232
dumped, Lake Erie ports..... 181
Eastern freight rates..... 193
exports by Customs districts..... 148
exports, monthly 156
freight rates to Baltimore..... 193
freight rates to Hampton Roads..... 193
freight rates to Newport News..... 193
freight rates to New York..... 193
freight rates to Norfolk..... 193
freight rates to Philadelphia..... 193
imports, monthly 169
mined from strip pits..... 73
mine prices at New York..... 20
mine prices at Philadelphia..... 21
Pennsylvania, explantory 110
Pennsylvania output by counties..... 131
prices at Boston..... 28
price of through "Soo" canal..... 252
produced at strip pits..... 76
production, Central Competitive Fuel 212
production, Pennsylvania, by districts 111
production, monthly 78
production, since outset..... 216
receipts at Boston..... 27
receipts in New England..... 79
reserves in Pennsylvania..... 130
shipments, Atlantic ports..... 170
shipments via "Soo"..... 250
shot off solid..... 73
tidewater prices 102
to Canada, monthly..... 155
to Canada, 1903-23..... 150
wage advances 183
wage agreement, 1923..... 172
Blossburg district, commencement..... 68
Boston, mines prices at..... 28
receipts at 27
receipts since 1889..... 28
year at 22
Boycott proposed in Massachusetts..... 26
Brazil, coal production..... 160
exports to 152
yearly consumption 152
Briquette manufacturers 69
production 166
British anthracite exported, 1906-23... 178
bunker tonnage, 1906-23..... 178
coal consumption 166
coal prices 1923..... 175
coal production, 1906-23..... 178
coal to Canada..... 180
coal to France..... 177
coal to Irish Free State..... 39
coal to South America..... 153
coal to United States..... 180
coal to Virgin Islands..... 37
coal trade, 1906-23..... 178
coal trade 166
coal, weekly production..... 178
Columbia, coal imports..... 187
Columbia, imports 171
Columbia, production 93
export trade, growth of..... 174
exports, 1906-23 178
exports, destinations 173
oil for bunkers..... 208
ports, foreign shipments..... 151
vs. American exports..... 157
Broad Top District, commencement..... 68
Brothers Valley Coal Co., adv..... 253
Buffalo & Susquehanna RR. shipments. 136
bituminous prices 53
exports from 182
in 1923 52
Rochester & Pittsburgh coal shipments 139
coke shipments 139
Bunkers, British oil for..... 208
coal at Baltimore..... 54
coal at Hampton Roads..... 51
coal, foreign 154
purposes, fuel oil for..... 154
tonnage at Atlantic ports..... 158
tonnage at Baltimore..... 158
tonnage at Hampton Roads..... 158
tonnage at New York.....21, 158
tonnage at Philadelphia..... 158
tonnage, British, 1906-23..... 178
tonnage from Philadelphia..... 45
Bunkering, oil, stations..... 84
Burma railways, consumption by..... 177
Bushel of coal, weight of..... 191
Business, ups and downs of..... 42
By-product coke production 1913-23... 195
coke production by States..... 194
coke production monthly 1923..... 194

C

California, production 66
Canada, British coal to..... 180
central, coal imports 136
coal and coke shipped to..... 155
coal available for consumption..... 170
coal available for use..... 141
coal statistics 141

23801

duty on coal 171
exports by provinces 162
exports to, 1903-23 150
exports to, monthly 155
imports by grades 171
imports by provinces, 1923 171
output of coal 170
Canadian basing points, freight rate to 191
coal imports 187
Head of Lakes, imports 187
Kootenay, production 49
Canton pier, capacity 132
Cape Breton, output 91
Cape Cod Canal, vessels passing through 138
Car movement, loaded, 1923 242
Carolina, Clinchfield & Ohio Ry. shipments 139
Census data on anthracite 84
Central Competitive Field, production .. 212
Competitive Field, wage agreement .. 172
Pennsylvania wage increases 184
RR. of N. J., anthracite shipments .. 98
RR. of N. J., pier capacity 132
Charcoal, cubic area of 234
Charleston, coal pier at 133
exports from 160
tidewater shipments 70
C. & O. coal shipments 60
district, commencement 68
Ry. dumpings 48
Ry. pier capacity 132
Ry. shipments 141
Chicago freight rates on coal to 72
prices 38
year at 36
Cincinnati, mine prices at 33
the year 1923 at 31
Clearfield District, commencement 68
freight rates to Atlantic ports 193
Cleveland, coal dumped 181
Lorain & Wheeling shipments 134
mine prices at 55
receipts at 55
shipments 182
shipments from 55
Coal available for use in Canada 141
consumption per capita 195
dissipation of 78
freight rates 190
from earth does not change weight of globe 205
mining, labor employed in 75
pier capacities; Atlantic ports 132
production of the world 161
traffic at St. Louis 210
Coke, beehive production by States ... 194
by-product production by States 194
cubic area of 234
exports by countries 164
exports by customs districts 148
exports, monthly 156
output, Connellsville, by districts ... 197
prices monthly Connellsville 199
production, Connellsville, by months .. 198
receipts at St. Louis 212
to Canada, monthly 155
trade, Connellsville 196
trade, Connellsville, growth of 198
Colorado, production 58
Fuel & Iron Co. production 252
Columbus, mine prices at 47
Communipaw pier, capacity 132
pier, tonnage 18
Computing table 240
Conneaut, coal dumped 181
shipments 182
Connellsville coke, furnace production .. 198
coke, merchant tonnage 198
coke, output by districts 197
coke, monthly prices 199
coke, production by months 198
coke trade 196
coke trade, growth of 198
freight rate 190
Frick wage rates 76
mining rate 187
Consolidation Coal Co., adv 239
Consumption of coal in Canada 170
of coal per capita 195
Converting a locomotive to oil 33
Cory Mann George Corp., adv 253
Cost of mine timbers trebled 15
Cost of storing soft coal 209
Cuba, exports to 149
Cubic area of various coals 232
Cumberland freight rates to Atlantic ports 193
Curtis Bay pier, capacity 132
Customs districts, shipments by 148

D

Dealers, number of 167
Deaths in 1923 206
D. & H. Canal not a toy 244
Delaware & Hudson Co., anthracite shipments 99
Del., Lack. & West Coal Co., adv 245
RR. anthracite shipments 99
pier capacity 132
Deposits, bituminous, in Pennsylvania .. 130
Destinations of tidewater business 70
Dickson & Eddy, adv 225
Distribution of anthracite domestic sizes 87
Detroit, Toledo & Ironton shipments ... 134
Dimensions of anthracite 27
Dissipation of coal 78
Distribution of prepared anthracite, normal 88
Docks at Head of Lakes 129
Domestic sizes, anthracite, distribution. 87
Dominion of Canada, coal production .. 170
Duluth, docks at 129
receipts at 140, 182
receipts, 1892-1923 165
Duty on coal 163
on coal into Canada 171

E

Earth, has weight been decreased? 205
Eastern bituminous freight rates 193
Eighth district, Illinois, wage agreement 186
Electricity, growing use of 35
Electric shovels at strip pits 76
Elizabethport pier, capacity 132
pier tonnage 18

Erie, coal dumped 181
RR. anthracite shipments 100
RR. pier capacity 132
RR. shipments 159, 182
Europe, coal production 161
exports to 145
Explosives used in 1922 193
Exports, average monthly price 159
British, destinations 173
from Baltimore 54
from British ports 151
from Buffalo 182
from Canada, by Provinces 162
from Charleston 160
from Great Britain, 1906-23 178
from Hampton Roads 51
from Ohio customs district 164
from Rochester district 160
from St. Lawrence district 153
of anthracite by countries 165
of anthracite, monthly 157
of bituminous, monthly 156
of coal 163
of coke by countries 164
of coke, monthly 156
to Africa 147
to Argentina 159
to Asia 146
to Brazil 152
to Canada, monthly 155
to Cuba 149
to Europe 145
to France 177
to Mexico 142
to North American countries 145
to Oceania 147
to Panama 152
from New York 21
from Philadelphia 45
to South America 146
to West Indies, monthly 149
trade, growth of 150
trade, growth of British 174

F

Fairmont freight rate 190
region, tonnages 30
region, year's developments 29
Fairport, coal dumped 181
shipments 182
Federal Valley RR. shipments 134
Fifth district, Illinois, wage agreement 185
Finleyville, freight rates to Atlantic Ports 193
First District, Illinois, wage agreement .. 185
Florida, exports from 170
Foreign bunker coal 154
holidays 179
trade in Petroleum products 77
Fourth district, Illinois, wage agreement 185
France, American coal to 177
British coal to 177
Freight car movement in 1923 242
rates, bituminous to Baltimore 193
rates, bituminous to New York 193
rates, bituminous to Philadelphia 193
rates, Connellsville 190
rates, Eastern bituminous 193
rates, Fairmont 190
rates, Greensburg 190
rates, Latrobe 190
rates on coal to Chicago 72
rates on Great Lakes 77
rates on lake cargo coal 192
rates, Pittsburgh 190
rates to Atlantic ports 190
rates to Canadian basing points 191
rates to eastern points 190
rates to Hampton Roads 193
rates to Newport News 193
rates to Norfolk 193
rates to Western Points 191
rates, Westmoreland 190
through "Soo" canal 252
Frick wage rates at Connellsville 76
Fuel oil consumption by Shipping Board 248
oil for bunker purposes 154

G

Gas industry expanding rapidly 54
industry in 1922 45
Gauley, freight rates to Atlantic ports. 193
Georges Creek district, commencement .. 68
Germany, great coal reserves 10
Ruhr Valley production 142
Girard Estate, production 92
Glace Bay, new colliery opened 189
Government officials increased cost of anthracite 95
Great Britain, anthracite exported 1906-23 178
bunker tonnage 1906-23 178
coal prices 175
coal production 178
coal to Belgium 73
coal to Newfoundland 21
coal trade 178
destinations of exports 173
exports 1906-23 178
exports to Canada 180
exports to United States 180
weekly production 178
Great Lakes, vessel rates on 77
Greensburg freight rates 190
Greenwich pier, capacity 132
Gross and net prices 236
tons reduced to net and pounds 238
Growing use of electricity 35
Growth of export trade 150

H

Haff, H. B. W., adv 255
Hampton Roads, 1923 48
bituminous freight rates to 193
bunker coal at 51
bunker tonnage at 158
coal pier capacities 132
exports 51
prices 50
tidewater shipments 70
Hand, coal mined by 73
Hard and soft coals, points of 254
Harsimus, pier, capacity 132
Headquarters of Pennsylvania mine inspectors 214
Hillebrand, Co., A. W., adv 211

History, trade, 1923 200
Hoboken pier, capacity 132
pier tonnage 18
Hocking field, wage advances 183
Valley RR. shipments 134
Holidays, foreign 179
Hudson Coal Co., The, adv 235
Hull, England, coal trade 177
Huntington & Broad Top shipments 138
Huron, coal dumped 181
shipments 181

I

Illinois, inside and outside wages 186
outside wage rate 186
production 58
wage agreement 185
wage agreement, Eighth district 186
wage agreement, Fifth district 185
wage agreement, First district 185
wage agreement, Fourth district 185
wage agreement, Ninth district 186
wage agreement, Second district 185
wage agreement, Seventh district 186
wage agreement Sixth district 185
wage agreement, Third district 185
Imports into Canada 187
of bituminous, monthly 169
of coal 163
of coal into Canada by grades 171
of coal into Central Canada 136
Impurities permitted in anthracite 86
Indiana, production 57
Iowa, production 63
Irish Free State, British coal to 39
Italy, lignite resources of 176

J

Johnstown in 1923 46
Jugo-Slavia, coal output 79

K

Kanawha & Michigan, Ohio shipments .. 134
freight rates to Hampton Roads 193
River shipments 131
wage scale 188
Kansas, production 68
Kenova freight rates to Hampton Roads 193
Kentucky, production 61
wages in southeastern 73
Kingston, Ont., coal imports 136
Knickerbocker Fuel Co., adv 213
Kootenay, production 49

L

Labor employed at strip pits 76
employed in coal mining 75
Lake cargo coal, rates on 192
Lake Erie ports, bituminous dumped 181
freight rates from 192
rates from 77
Lakes, Head of, Canada, imports 187
shipments 181
Lake Superior ports, rates to 77
Lambert Point, pier capacity 133
record dumpings 234
Large cities not coal factors 205
Latrobe freight rate 190
Lehigh & New England, anthracite shipments 100
& Susquehanna RR. anthracite tonnage 133
& Wilkes-Barre Coal Co., adv 231
Coal & Nav. Co., adv 243
region, coal produced 94
region shipments 90
region, sizes shipped 93
Valley Coal Sales Co., adv 227
Valley RR. anthracite shipments 98
Valley RR. pier capacity 132
Lignite production in North Dakota ... 49
resources of Italy 176
Lithuania, coal consumption 193
Loaded freight car movement, 1923 242
Locomotive, converting a, to oil 33
Locust Point pier, capacity 132
Lorain, coal dumped 181
shipments 182

M

Machinery, coal mined by 72
Manitoba, coal imports 187
imports 171
Manufacturers of briquets in U. S 69
Martinique, coal consumption 135
Maryland, production 59
Meeker & Co., adv 251
Mexico, exports to 142
Meyersdale district, commencement 68
freight rates to Atlantic Ports 193
Michigan district, exports 167
production 68
Middle Atlantic States, anthracite to ... 88
Middlemen, varieties of 174
Milwaukee, receipts at 39
Mine accidents, notable 158
Mine prices at Baltimore 51
prices at Cincinnati 133
prices at Cleveland 55
prices at Columbus 47
prices at Pittsburgh 42
timbers, cost of trebled 15
Mines operated in 1921, number 143
Mining companies, large, in West Virginia 127
rate, Connellsville 187
Minneapolis in 1923 34
Missouri, production 64
Mobile, exports from 148
Monongahela River, percentage of coal carried 86
tonnage 66
Monthly bituminous production 78
Montreal, coal imports 136
Morrisdale Coal Co., adv 251

N

Necrology, 1923 206
Net and gross prices 236

tons, reduced from gross..... 238
New Brunswick coal fields..... 180
coal imports 187
imports 171
New England, anthracite to, by states.. 88
receipts of coal in..... 79
Newfoundland, coal from Great Britain. 21
New Mexico, production..... 62
New Orleans, exports from..... 136
Newport News, bunker tonnage at.... 158
coal pier capacities..... 132
freight rates to..... 193
tonnage dumped 48
New River freight rates to Hampton Roads 193
New York, bituminous market, course of 17
bituminous mine prices at..... 20
bituminous shipments 70
bunker tonnage at..... 158
bunker tonnage supplied..... 21
Central Lines shipments..... 133
Central, Ohio coal shipments..... 134
coal pier capacities..... 132
course of Pool 9 at..... 12
exports from 21
harbor, bituminous freight rates to.... 193
harbor, pier tonnages..... 18
O. & W. Ry. anthracite shipments... 100
O. & W. Ry. pier capacity..... 132
temperature extremes at..... 248
tide bituminous prices..... 102
weather at 246
year at 16
Ninth district, Illinois, wage agreement. 186
Norfolk & Western district, commencement 68
pier capacity 133
record production along..... 65
average tons per car..... 44
dumpings at Norfolk..... 48
Ohio coal shipments..... 134
record dumpings at Norfolk..... 234
record train on..... 51
shipments 140
Norfolk, bunker tonnage at..... 158
coal pier capacities..... 132
freight rates to..... 193
Lambert Point record..... 234
tonnage dumped 48
North America, coal production..... 161
North American countries, exports to... 145
North Dakota, lignite production..... 49
Northwest, in the, 1923..... 34
shipments via "Soo" Canal..... 250
Notable mine accidents..... 158
Nova Scotia coal imports..... 187
imports 171
production, 1874-1922 195
Number of mines operated..... 143

O

Oceanica, coal production..... 162
exports to 147
Ohio coal trade, facts about..... 172
customs district exports..... 164
production 62
River, percentage of coal carried..... 86
Oil, British, for bunkers..... 208
bunker stations 84
consumption by Shipping Board..... 248
converting a locomotive to..... 33
fuel, for bunker purposes..... 154
Oklahoma, production 66
Ontario, central, coal imports..... 187
imports 171
Oregon, production 69
Ottawa, coal imports..... 136

P

Panama, exports to..... 152
Pattison & Bowns, Inc., adv..... 219
Peale, Peacock & Kerr, adv..... 241
Pennsylvania, anthracite company production 104
anthracite explanatory 103
anthracite production by counties..... 130
anthracite tax on dredged coal..... 184
bituminous deposits 130
bituminous, district names 110
bituminous output by counties..... 131
bituminous producing companies..... 111
bituminous production by districts... 111
central, production 138
central, wage increases..... 184
C. & C. Corp., adv..... 233
C. & C. Corp., production..... 67
Lines, Ohio shipments..... 134
mine inspectors, headquarters..... 214
production of anthracite by districts.. 104
reserves of bituminous..... 130
value of anthracite production..... 130
Pennsylvania RR. anthracite shipments.. 99
capacity of piers..... 132
freight rates to Atlantic ports..... 190
tonnage 140
Per capita consumption of coal..... 195
Perth Amboy, pier capacity..... 132
pier tonnage 18
Petroleum consumption per capita..... 195
foreign trade in..... 77
origin of 149
output, 1923 71
products, exports 77
Philadelphia & Reading, anthracite shipments 98
bituminous tonnage 134
C. & I. Co., adv..... 247
Port Richmond tonnage..... 101
pier capacity 132
Philadelphia, bituminous mine prices.... 21
bituminous freight rates to..... 193
bituminous shipments 70
bunker tonnage at..... 158
coal pier capacities..... 132
exports from 45
in 1923 43
Port Richmond piers tonnage..... 101
tide bituminous prices..... 102
Pier 18, Jersey City, capacity..... 132
tonnage 18
Lambert Point record dumpings..... 234
tonnages at New York..... 18
Pittsburgh & Lake Erie RR. shipments 167
& Shawmut RR. shipments..... 136
Pittsburgh & West Virginia RR. shipments 134
freight rate 190
freight rates to Atlantic Ports..... 193

freight rates to eastern points..... 190
in 1923 40
mine prices at 42
Shawmut & Northern Ry. shipments.. 137
wage scale 189
Pocahontas, freight rate to Hampton Roads 193
Points of hard and soft coal..... 254
Polish tax, reduction in..... 244
Population, anthracite consuming States 96
Port Covington pier, capacity..... 132
Port Liberty pier, capacity..... 132
pier tonnage 18
Port Reading, pier capacity..... 132
pier tonnage 18
Port Richmond, pier capacity..... 132
piers, tonnage 101
Potential capacity of soft coal mines, great 18
Potts & Co., Inc., F. A., adv..... 237
Preparation of anthracite..... 97
Prepared anthracite, normal distribution of 88
Price of number of pounds..... 240
Price, average for coal at mines..... 74
average monthly of exports..... 159
of coal at mines, average..... 74
Prices, anthracite, Government officials increased 95
at Baltimore 51
at Buffalo 53
at Chicago 38
at Cincinnati, mine..... 33
at Cleveland 55
at Columbus 47
at Hampton Roads..... 50
at Pittsburgh 42
bituminous at Boston..... 28
bituminous mine, at Philadelphia..... 21
bituminous mine prices, at New York 20
British coal 175
gross and net..... 236
monthly, of Connellsville coke..... 199
of anthracite at mines..... 19
rise in anthracite..... 95
tidewater at New York..... 102
tidewater bituminous 102
Prince Edward Island, coal imports.... 187
imports 171
Producing companies, Pennsylvania bituminous 111
Production of anthracite by districts... 104
of anthracite companies..... 104
of coal in U. S..... 10

Q

Quebec, coal imports..... 136

R

Rail receipts in New England..... 79
shipments of Ohio coal..... 134
Railroads, anthracite shipments by monthly 98
bituminous coal shipped by..... 218
Rate per ton, through "Soo" canal..... 252
Record for coal dumpings..... 234
months in anthracite shipments..... 101
production along N. & W. Ry..... 65
train on Norfolk & Western Ry..... 51
Reserves of bituminous in Pennsylvania 130
Review of anthracite industry, 1923... 80
of the year..... 11
Rise in anthracite prices..... 95
Rio Grande du Sul railways, consumption 137
Robinson, Hayden & Co., adv..... 211
Rochester district, exports..... 160
Ruhr coal to last 800 years..... 10
Valley production 142

S

St. George Coal Co., adv..... 249
pier, capacity 132
St. Lawrence district, exports..... 153
St. Louis, coal traffic at..... 210
St. Paul in 1923..... 34
Sandusky, coal dumped..... 181
shipments 181
Saskatchewan, coal imports..... 187
imports 171
Sault Canal coal shipments..... 250
Saward's Journal, adv..... 217
Schuylkill region coal produced..... 94
region shipments 90
region, sizes shipped..... 93
Second district, Illinois, wage agreement 185
Seventh district, Illinois, wage agreement 186
Sewalls Point pier, capacity..... 133
Shipments of anthracite by months..... 101
of anthracite by sizes, 1911-22..... 94
Shipping Board's fuel oil consumption... 248
Shot off solid, bituminous..... 73
Sixth district, Illinois, wage agreement.. 185
Sizes of anthracite..... 97
Soft coal cost of storing..... 209
Soft and hard coals, points of..... 254
"Soo" canal, freight rate through..... 252
tonnage and freight..... 252
South Amboy, pier capacity..... 132
pier tonnage 18
tonnage 169
South America, coal imports..... 153
coal production 161
exports to 146
Southern Ry. pier capacity..... 133
Sprague & Son Co., C. H., adv..... 221
Standard sizes of anthracite..... 97
Storing soft coal, cost of..... 209
Strip pits, bituminous mined..... 73
bituminous produced 76
steam shovels at 76
Sullivan County, Pa., production..... 94
shipments by sizes..... 93
Superior, docks at..... 129
receipts, 1892-1923 165
receipts at 140, 182

T

Table for ascertaining price..... 240
Tariff on coal..... 163
on coal into Canada..... 171
Tax, anthracite, on dredged coal..... 184
reduction in Polish..... 244

Temperature extremes 248
Temperatures, mean, at New York.... 246
Tennessee, production 69
Texas, production 64
Text of anthracite wage agreement..... 85
Thacker freight rates to Hampton Roads 193
Third district, Illinois, wage agreement.. 185
Thorne, Neale & Co., adv..... 215
Tidewater business, destinations..... 70
piers, bituminous prices..... 102
receipts in New England..... 79
shipments, Atlantic ports..... 70
Timbers, mine, cost of trebled..... 15
Toledo, coal dumped..... 181
shipments 181
Tonnage, great increase in..... 11
Tonnage through "Soo" canal..... 252
Toronto, coal imports..... 136
Trade history of 1923..... 200
names of anthracite..... 102

U

Undercliff pier, capacity..... 132
pier tonnage 18
Undersizing, anthracite, allowances for. 88
United Kingdom, exports by ports..... 151
United States anthracite exports by countries 165
anthracite exports, monthly..... 157
anthracite shipments since outset.... 214
average price for coal at mines..... 74
beehive coke production 194
beehive coke production, 1913-23.... 195
bituminous coal mined by machinery.. 72
bituminous coal shipped by railroads.. 218
bituminous exports, monthly..... 156
bituminous imports, monthly..... 169
bituminous produced at strip pits..... 76
bituminous production, monthly..... 78
bituminous production since outset.... 216
briquette manufacturers..... 69
briquette production 166
British coal to..... 180
by-product coke production..... 194
by-product coke production, 1913-23.. 195
coal production 10
coal to South America..... 153
exports by countries..... 164
coke exports, monthly..... 156
Commission's report on number of dealers 167
duty on coal..... 163
exports of coal..... 163
foreign trade in petroleum..... 77
imports of coal..... 163
labor employed in coal mining..... 75
methods of mining bituminous..... 73
mines operated in..... 143
value of coal produced..... 71
tonnage 71
Upper Silesia, coal reserves..... 10
Ups and downs of business..... 42
Utah, production 65

V

Value of coal produced in U. S..... 71
Value of coal through "Soo" canal..... 252
Varieties of middlemen..... 174
Vessel rates on Great Lakes..... 77
Virgin Islands, British coal to..... 37
Virginia, production 65
semi-anthracite 168
Virginian Ry., dumpings..... 48
pier capacity 133
shipments 137

W

Wage advances, bituminous..... 183
agreement, anthracite, text of..... 85
agreement, Illinois 185
increases in central Pennsylvania.... 184
agreement, central competitive..... 172
fixing increased cost of anthracite.... 95
increases, anthracite 156
rates, Frick 76
rates, Illinois, inside and outside..... 186
scale, Kanawha 188
scale, Pittsburgh 189
Connellsville, mining 187
in southeastern Kentucky..... 73
Washeries, anthracite shipped..... 93
Washington production 60
Waterway, coal shipped by..... 230
Waterways, bituminous coal shipped.... 218
Weather at New York..... 246
temperature extremes 248
Weehawken, pier capacity..... 132
pier tonnage 18
Weight of a bushel of coal..... 191
Welsh coal analyses..... 147
West Indies, exports to..... 146
exports to, monthly..... 149
West Virginia freight rates to Atlantic Ports 193
new mines opened..... 157
large mining companies..... 127
mine districts 216
production 56
Western Maryland Ry. pier capacity... 132
shipments 135
Western points, freight rate to..... 191
Westmoreland freight rate..... 190
freight rates to Atlantic Ports..... 193
Wheeling & Lake Erie, Ohio coal shipments 134
Whitney & Kemmerer, adv..... 220
Windsor, Ont., coal imports..... 136
Wittenberg Coal Co., adv..... 225
World's coal production..... 161
Wynkoop CM. Co., Inc., adv..... 225
Wyoming, production 67
region, coal produced..... 94
region shipments 90
region, sizes shipped..... 93

Y

Year, review of the..... 11
Yukon, imports 171

Z

Zanesville & Western RR. shipments... 134

Coal Production of the United States.

The U. S. Geological Survey has so perfected its system of estimates of coal production that early returns of particular accuracy are now available. We accordingly present the Survey's figures for 1923 as officially announced, showing for comparison the actual output for four preceding years as recorded at Washington.

It will be noted that the production of anthracite is recorded, this being an amount materially greater than the shipments, more commonly used as the basis of trade statistics.

Bituminous	1919	1920	1921	1922	1923
Pennsylvania	150,758,154	168,083,847	116,013,942	113,148,308	160,000,000
West Virginia	79,036,553	89,450,707	72,786,996	80,488,192	100,100,000
Illinois	60,862,608	88,630,893	69,602,763	58,467,736	84,000,000
Kentucky	30,036,061	35,528,762	31,588,270	42,134,175	41,000,000
Ohio	35,876,682	45,032,653	31,942,776	26,953,791	40,000,000
Indiana	20,912,288	29,090,585	20,319,509	19,132,889	27,000,000
Alabama	15,536,721	16,140,099	12,568,899	18,324,740	18,200,000
Virginia	9,326,830	11,244,106	7,492,378	10,491,174	11,000,000
Colorado	10,323,420	12,274,225	9,122,760	10,019,597	10,300,000
Wyoming	7,219,738	9,623,271	7,200,666	5,971,724	8,200,000
Utah	4,631,323	6,005,199	4,078,784	4,335,161	6,500,000
Iowa	5,624,692	7,774,916	4,531,392	4,876,774	6,100,000
Tennessee	5,213,205	6,585,628	4,460,326	2,955,170	4,500,000
Kansas	5,224,724	5,838,408	3,466,641	4,992,008	4,600,000
New Mexico	3,138,756	3,683,440	2,453,482	2,802,511	3,550,000
Oklahoma	3,802,113	4,830,288	3,362,623	2,924,750	3,800,000
Montana	3,236,369	4,403,866	2,733,958	2,572,221	2,950,000
Missouri	3,979,798	5,266,565	3,551,621	2,581,165	2,700,000
Washington	2,990,447	3,753,093	2,428,722	3,147,173	3,300,000
North Dakota	840,959	907,625	864,903	1,327,564	2,700,000
Maryland	3,021,686	4,030,239	1,827,740	1,222,707	1,100,000
Texas	1,680,656	1,615,015	972,839	1,106,007	1,400,000
Arkansas	1,429,020	2,050,596	1,227,777	1,110,046	1,200,000
Michigan	996,545	1,487,765	1,141,715	929,390	950,000
Georgia	53,337	50,156	33,815	60,636	250,000
Oregon	18,739	20,717	*	*	
California	6,554	2,753	38,845	26,893	
South Dakota	14,417	12,777	7,553	7,752	
Total net tons	465,860,058	563,734,383	415,921,950	422,268,099	545,400,000
Anthracite	88,092,201	89,598,249	90,473,451	54,683,022	95,444,000
Grand total net tons	553,952,259	653,332,632	506,395,401	476,951,121	640,844,000

* Included in California.

Germany, in spite of territorial losses, still remains a country with the greatest coal reserves of any nation in Europe, having bituminous reserves in Upper Silesia, expected to last over 1,000 years; Ruhr coal, expected to last from 800 to 900 years, and brown coal to last about 150 years.

REVIEW OF THE YEAR

Vastly Different Conditions Prevailed in Anthracite and Bituminous —Over-Production of Soft Coal Causes Abnormal Market.

Another year has passed by and it is found that 1923 was not lacking in unusual features, for every year develops special points of interest. Sometimes these are at variance with the expectations at the beginning of the term and in this respect 1923 was not exceptional.

The year began with a heavy demand for coal, the anthracite market being extremely strong and tonnage seemingly in scant supply because of the long continued strike in the preceding year. The bituminous market profited by the scarcity of anthracite and also by the fact that the long strike in the soft coal fields had reduced the stocks on hand.

In soft coal, however, the beneficial results were but transitory. The decline in market strength and activity which commenced in 1921, following a commercial reaction which it was thought was to mark a general liquidation of business affairs, was merely halted, it would appear, by the strike of 1922 and the strengthening of the market that thereby developed. As soon as the year was well started and the special and unusual demands for coal arising from the anthracite difficulties had passed away, the market began to ease off and there was notable softness to conditions during the spring.

Then it was a general expectation that soon after the Fourth of July, when fall requirements would be given consideration, there would be an improvement in the demand for coal, but such did not prove to be the case. In fact, conditions went from bad to worse, with an almost continual decline during the summer and fall.

Great Increase in Tonnage.

The year witnessed a remarkable change in tonnage as compared with 1922 and the year before. The final figures show a total of 545,300,000 tons of soft coal produced, and it is lamentable that so large an amount of business was done with so little profit to those engaged therein. Of course, there are several hundred, possibly a couple of thousand, concerns that go ahead mining and shipping coal year in and year out to good advantage, neither making so much in good times as certain speculative factors nor falling behind so much as certain interests do in times of depression. But aside from these substantial concerns, well rooted in a good trade position, the majority of the houses in this line of business became distressed to a degree verging upon panic and some have said and done many foolish things indicative of alleged poverty. True enough they may have been in a few cases, but we surmise that their assertions have not always been meant for taking at their face value.

Probably a small reduction in the output at any particular time would have put a much different aspect on matters, for despite all the competition that has been encountered, it is a fact that a great amount of coal has been used. The actual facts are much at variance with assertions heard from time to time that "Nobody's buying anything; no coal is being used." The increase of stock on hand has not exceeded 40,000,000 tons comparing the end of the year with the beginning. In fact, 30,000,000 tons might be nearer the mark. Consequently, therefore, the

actual use of tonnage was no less than 520,000,000 tons in 1923, and that is a large business any way one may look at it.

Course of Pool 9 at New York.

Taking the price at New York of Pool 9 as a criterion, the condition of the market would be briefly described by quoting a decline in the selling price from $6 to $6.50 at the beginning of January to $2 to $2.50 at the end of the year. With mining costs remaining practically the same, it will be seen that there was a vast slashing of profits, for while the current spot market represents only a small fraction of the total sales, contract prices are naturally affected by a long-continued decline in spot prices. And while the high prices were due in large measure to shortage of cars, which restricted output, the operation of mines was restricted by lack of market in the latter part of the year; so that those who did not have good contracts to take care of a fair part of their business, those who had not conserved their gains of the few years of prosperity preceding the recent downfall, were at a great disadvantage, for the market declined practically throughout the year, getting down to something between $4 and $5 during February, between $3 and $4 during March, and then going down more gradually as the weeks went by, with $3 to $3.25 the high price during June, $2 to $2.25 the range during August, and no more than $2.50 during October, November and December.

There would have been more money made than there was had there not been a great degree of competition, resulting in constant shipping of surplus coal to the market. Tonnage produced by concerns more or less new in the business and offered by agencies without well-established connections has often been sacrificed, with resulting market conditions affecting the trade of the older and larger houses. This condition is due in part to the fact that there has been practically no substantial growth in the soft coal business in the last ten years, for 1918 still holds the record with regard to tonnage mined and shipped.

Old-Time Conditions Gave Opportunity.

Years ago there was a market development of approximately ten per cent a year. This gave the opportunity for new mining companies and new wholesale houses to gain a footing and move their tonnage without unduly disturbing the business of other interests, but with practically no increase in tonnage of late, there has been a constant struggle to move coal. Under old-time conditions, there was often a surplus and an unprofitable condition, and it is therefore no surprise that even with the better ideas of merchandising that now prevail, the circumstances of the present time show an unfavorable result as regards net return.

Outstanding features of the year's business, are the increases in bituminous exports and the heavy lake trade. The foreign movement for 1923 (largely to Canada, of course) amounted to 19,154,881 tons, practically the same as in 1921 and nearly twice as much as in 1922. This compares with 34,269,735 tons in 1920, the best year on record. The lake movement established a new high record, partly, some said, because there was no other place to put coal during a portion of the season. Yet this must be accepted with reservations, for the movement kept up to the actual closing of navigation, which indicated that, heavy as was the early movement, there was still a demand for coal at the end of the season. This came about largely because of the great depletion of stocks at the opening of navigation, following the limited shipments of 1922 and a strong demand throughout the winter.

It must be said, however, that the offshore movement in 1922 was practically all in the hands of well-established concerns. Many companies which figured in the great export movement of 1920 have gone out of business altogether and many of the recognized coal houses that figured in the activities of those days have since restricted themselves to home markets.

Ever since the beginning of the spring season, railroad service was on a very satisfactory basis for those who desired prompt shipment. In contrast with a year ago when the effect of the shopmen's strike was still felt, the movement of coal was, as a matter of fact, almost too good to please those who were desirous of seeing a stronger market. It is an unfortunate fact that good times in the soft coal trade depend now, as they have for many years past, upon abnormal conditions of car service, labor and weather. If all these or two of them are on what might be termed a normal basis, a soft market invariably prevails. But little more was heard of demands for freight rate reductions. Only in certain particular cases were demands for same put forward and, in general, the coal carrying roads had a very successful year, for whatever the smallness of operator's return on tonnage may be, the freight rate on coal has always been the same.

Heavy Mining to End.

Not until the closing weeks of the year was there a decline in productive activity. The end of the lake season naturally caused some decrease in movement, for in the absence of strong demand from other quarters, there was not the incentive frequently seen to keep going at a pace equal to what had been accomplished during the earlier part of the season; but all requirements had been more than met while the only market improvement observable was a cessation of the downward tendency.

Once more there was extended comment with reference to the large tonnage produced with mines working only part time. Apparently, it must be accepted as one of the traditions of the trade that mines are not supposed to work all the time unless they have special privileges in the way of railroad orders or such relationship with industrial consumers as to guarantee operating conditions far above those customarily enjoyed by ordinary commercial operations.

Wonderful Year for Anthracite.

During 1923 the anthracite coal trade enjoyed unusual prosperity. The winter season, while not exceptionally severe, was protracted, and even though much was accomplished in the introduction of substitutes, the demand for coal for current use remained strong well up into April, and no sooner had the winter demand ceased than there came a call for orders for the ensuing season.

The demands of the miners with regard to new wage rates had been widely exploited and as usual the U. M. W. seemed to fare well with regard to publicity. The public, generally, throughout the anthracite consuming districts were definitely impressed with the thought that there would be a strike as scheduled for September 1st, and throughout the summer there were unusual demands upon the dealers. There was particular concentration upon stove coal and throughout the season the scarcity of that size became proverbial in trade circles.

The early months of the year were marked by independent prices ranging from $14 to $14.50 on stove coal, and while these eased off as the year progressed, reaching $9 and $10 quotations in the month of April, prices soon advanced under

the stimulus of strike talk, and the unusual summer spectacle of a steadily increasing premium for anthracite was observed, the premium price of independent operators getting back to between $14 and $15 at the end of August and going above that when the strike went into effect, after a long series of parleys, on the 1st of September.

Large Producers Conservative.

As usual the large producers pursued a very conservative business policy throughout the year, and following resumption made increases closely calculated on extra cost. Although there is no longer a uniform price as there was in the days when the Reading established a dominant circular figure, the company prices were all close to the minimum rate.

The strike having gone into effect despite many official and unofficial efforts to forestall it, there was an immediate effort to settle on the part of officials who realized the unfortunate results that would follow a protracted struggle. For after all, despite various suggestions as to how a strike can be contended with, the fact remains that an anthracite strike, definitely engaged upon, is sure to be a long one.

Governor Pinchot, as the chief executive of the great anthracite producing State, indicated particular interest in the settlement thereof and President Coolidge, giving another illustration of his great native Yankee shrewdness, passed the proposition on to him. It proved to be a "hot one" as the boys say. The Governor brought about a settlement by giving an advance of 10 per cent to the miners, accompanied by pleasant thoughts as to producers, transporters and retailers absorbing the increased expense and giving the public their coal at the same price as before.

As the large producers, controlling more than 80 per cent of the tonnage, had been working on a narrow margin; as the larger and more reputable retailers have, in like manner, made close calculations, and as the coal freight rates of the railroads are established under the authority of the Interstate Commerce Commission, no change resulted in the way of absorption of difference in the wholesale price of coal and instead of the Governor gaining largely in popular favor by his move, he was the subject of considerable criticism, particularly when endeavoring by supplemental statements to explain his position.

Trouble with Steam Sizes.

While the record demand for prepared coal and the activity in supplying same constitutes a chapter in trade history, there was, on the other hand, considerable difficulty nearly all the year with regard to the movement of the steam sizes. This was accentuated by the low price of bituminous coal which made it particularly difficult to move the buckwheat size at its circular price of $3.50.

The situation was further complicated as the result of arrangements entered into by means of which dealers received an enhanced tonnage of the domestic sizes if they bought liberally of the steam sizes. Many of them, having no real market for the steam sizes, turned back this coal to the middlemen, who sold it below circular price, and further disturbed the market for buckwheat and the smaller sizes.

Rice and barley can be sold at their low schedule prices because, for one thing the tonnage thereof is decidedly less than the tonnage of buckwheat, which is

naturally produced in the making of the anthracite output. But with a large percentage of buckwheat to be disposed of (something like nine per cent as a general thing) and a high price, relatively speaking, there was considerable difficulty encountered throughout the year.

An Active Fall Season.

With the loss of about three weeks' time, because of the strike in an industry where every day means something in the way of useful production, the fall season opened with the anthracite market in very strong condition. The continuance of high premiums on the part of a small percentage of independent coal, subject to sale at the market, was beyond expectations. It was freely asserted that by the end of October the steady maintenance of large daily outputs would cause the demand to ease off in view of the large amount of coal placed with consumers during the summer.

But not until the end of November was there a noticeable relaxation in the demand and this was probably brought about as largely by the mild weather conditions as by any other feature appertaining to the trade. Normal conditions prevailed during October and the early part of November, but in the latter part of November and in December there was an unusual succession of mild days, the Weather Bureau at New York reporting 21 days in succession that were above the seasonal average. This served to enable dealers to meet requirements nicely, and premiums on all but the best sort of coal declined steadily as the year drew to a close.

To the end, therefore, there remained the opportunity to dispose of stove and nut of good quality at an advance over circular prices and that tells very definitely how strong the market was throughout the closing portion of the year.

The anthracite shipments amounted to 73,000,000 gross tons. This compares with 40,815,777 in 1922; 67,617,713 in 1921; 68,915,460 in 1920; 66,855,462 in 1919; 76,649,918 in 1918, and 77,133,305 in 1917, which is the record tonnage movement for this coal.

Altogether it was a very successful year for anthracite that compared with a most unfortunate season in bituminous.

Cost of Mine Timbers Trebled.

In 1905 the average cost of round timber in Illinois was 6 cents per cubic foot and sawed timber $22 per 1,000 board feet. In 1921 the cost of round mine timber delivered to the mine ranged from 17 cents per cubic foot upward, for a number of representative mines in different districts. From this it is seen that the cost of mine timber in Illinois has increased three-fold since 1905.

In 1921, the cost for prop timber delivered to the mine, in 12 mines in Southern Illinois was 0.9 to 3.6 cents per ton of coal hoisted, and averaged 1.9 cents per ton.

The cost per ton of coal mined, for all mine timber used underground delivered to the pit mouth ranges from 3 to 10½ cents for 30 operators producing about 202,000,000 tons annually, in different districts, with an average of approximately 4.7 cents per ton. The consumption per ton of coal mined for these mines ranges from 0.09 to 0.39 cubic feet per ton, and averaged 0.23 cubic feet.

gering losses that it was finally abandoned for a time. Then the tidewater market gradually righted itself.

During the year the bituminous trade became concentrated into fewer hands at the producing end. Producers of inferior grades were forced out of the running to a large extent by the low prices at which better coal was being offered. Those who contracted in the spring came out better than those who elected to take their chances in the open market, for they had a certain amount of regular business at prices above those prevailing later in the year.

The year closed with the usual holiday lull in evidence, but with prices reasonably steady owing to output having been sharply curtailed by the mine shutdowns incidental to the season.

New York Harbor Piers—Tonnage 1923.

Piers	Railroad	Anthracite	Bituminous	Total
Arlington	Balt. & Ohio	.....	741,654	741,654
Communipaw	C. RR. of N. J.	251,426	132,226	383,652
Elizabethport	C. RR. of N. J.	805,334	28,419	833,753
Hoboken	D., L. & W.	2,165,451	.....	2,165,451
Perth Amboy	Lehigh Valley	2,434,293	.....	2,434,293
Pier 18 Jersey City	C. RR. of N. J.	1,334,942	868,497	2,203,439
Port Johnston	C. RR. of N. J.	45	.....	45
Port Liberty	C. RR. of N. J.	55	727,264	727,319
Port Reading	Port Reading	2,031,074	1,958,968	3,990,042
South Amboy	Pennsylvania	825,956	2,995,705	3,821,661
Undercliff	Erie	1,931,471	43,854	1,975,325
Weehawken	Ontario & West.	1,096,699	.....	1,096,699

1922.

Piers	Railroad	Anthracite	Bituminous	Total
Arlington	Balt. & Ohio	.....	793,874	793,874
Communipaw	C. RR. of N. J.	135,127	103,259	238,386
Elizabethport	C. RR. of N. J.	624,219	31,804	656,023
Hoboken	D., L. & W.	1,255,355	.....	1,255,355
Perth Amboy	Lehigh Valley	1,682,350	.....	1,682,350
Pier 18 Jersey City	C. RR. of N. J.	916,840	1,120,460	2,037,300
Port Johnson	C. RR. of N. J.	.....	.....	.....
Port Liberty	C. RR. of N. J.	6,511	658,525	665,036
Port Reading	Port Reading	1,868,080	777,948	2,645,028
South Amboy	Pennsylvania	569,910	2,102,552	2,672,462
Undercliff	Erie	1,452,679	18,296	1,470,975
Weehawken	Ontario & West.	924,909	.....	924,909

The potential capacity of the soft coal mines is great, almost beyond estimation, but long before that point could be reached there would be the matter of labor and railroad facilities to consider. Neither one of these can be increased greatly within a short time, therefore, a couple of years of increase in demand seem to assure a much better coal market.

NEW YORK ANTHRACITE PRICES, F. O. B. MINES, 1923.

	Jan.		Feb.	
	Ind.	Co.	Ind.	Co.
Broken	9.00	7.75-8.25	9.00	7.75-8.25
Egg	9.25-12.00	8.00-8.35	9.25-12.00	8.00-8.35
Stove	9.25-12.00	8.00-8.35	9.25-12.00	8.00-8.35
Chestnut	9.25-12.00	8.00-8.35	9.25-12.00	8.00-8.35
Pea	7.50-11.00	6.15-6.30	7.50-11.00	6.15-6.30
Buckwheat No. 1	5.25- 6.25	4.00-4.10	4.50- 5.50	4.00-4.10
Rice	2.75- 3.00	2.75-3.00	2.25- 3.00	2.75-3.00
Barley	1.65- 2.00	1.50-2.00	1.50- 2.00	1.50-2.00

	Mar.		April	
	Ind.	Co.	Ind.	Co.
Broken	9.00	7.75-8.25	.....	7.75-8.35
Egg	9.25-11.00	8.00-8.35	8.50-10.50	8.00-8.35
Stove	9.25-11.00	8.00-8.35	8.50-10.50	8.00-8.35
Chestnut	9.25-11.00	8.00-8.35	8.50-10.50	8.00-8.35
Pea	6.30- 9.00	6.15-6.30	6.30- 7.50	6.00-6.30
Buckwheat No. 1	3.75- 4.25	4.00-4.10	2.50- 3.50	3.50-4.15
Rice	2.25- 3.00	2.75-3.00	1.75- 2.50	2.50
Barley	1.40- 2.00	1.50-2.00	1.25- 1.50	1.50

	May		June	
	Ind.	Co.	Ind.	Co.
Broken	.....	7.75-8.35	.....	7.75-8.35
Egg	8.50-11.00	8.00-8.35	8.50-11.50	8.00-8.35
Stove	8.50-11.00	8.00-8.35	8.50-11.50	8.00-8.35
Chestnut	8.50-11.00	8.00-8.35	8.50-11.00	8.00-8.35
Pea	6.30- 7.25	6.00-6.30	7.25- 8.00	6.00-6.30
Buckwheat No. 1	2.25- 3.50	3.50-4.15	2.75- 3.50	3.50-4.15
Rice	1.50- 2.50	2.50	2.00- 2.50	2.50
Barley	1.00- 1.50	1.50	1.25- 1.50	1.50

	July		Aug.	
	Ind.	Co.	Ind.	Co.
Broken	.....	7.75-8.35	.....	7.75-8.35
Egg	8.50-12.00	8.00-8.35	8.50-12.50	8.00-8.35
Stove	8.50-12.00	8.00-8.35	8.50-13.00	8.00-8.35
Chestnut	8.50-12.00	8.00-8.35	8.50-12.50	8.00-8.35
Pea	6.75- 8.00	6.00-6.30	6.75- 8.50	6.00-6.30
Buckwheat No. 1	2.75- 3.50	3.50-4.15	3.00- 3.50	3.50-4.15
Rice	1.80- 2.50	2.50	2.25- 2.50	2.50
Barley	1.25- 1.50	1.50	1.25- 1.50	1.50

	Sept.*		Oct.	
	Ind.	Co.	Ind.	Co.
Broken	.....	8.00-9.25	9.60-12.25	8.00-9.25
Egg	9.60-11.50	8.75-9.25	9.85-12.25	8.75-9.25
Stove	9.85-11.50	8.75-9.25	9.85-12.25	8.75-9.25
Chestnut	9.85-11.50	8.75-9.25	9.85-12.25	8.75-9.25
Pea	6.75- 7.50	6.15-6.65	6.75- 8.25	6.15-6.65

	Sept.*		Oct.	
	Ind.	Co.	Ind.	Co.
Buckwheat No. 1.....	2.75- 3.50	3.50	2.50- 3.50	3.50
Rice	2.25- 2.50	2.50	2.00- 2.50	2.50
Barley	1.25- 1.50	1.50	1.15- 1.50	1.50

	Nov.		Dec.	
	Ind.	Co.	Ind.	Co.
Broken	9.60-10.50	8.00-9.25	8.50-10.00	8.00-9.25
Egg	9.85-12.25	8.75-9.25	9.85-10.50	8.75-9.25
Stove	9.85-12.25	8.75-9.25	9.85-11.00	8.75-9.25
Chestnut	9.85-12.25	8.75-9.25	9.85-11.00	8.75-9.25
Pea	6.50- 7.75	6.15-6.65	6.00- 7.25	6.15-6.65
Buckwheat No. 1.....	2.00- 2.50	3.50	2.00- 3.00	3.50
Rice	1.50- 2.00	2.50	1.35- 2.25	2.50
Barley	1.00- 1.25	1.50	1.25- 1.50	1.50

Freight rate on anthracite domestic sizes from mines to New York Harbor lower ports for first half of year was $2.61; from July 1, 1922, when reduction was made the rate has been $2.34 per gross ton. On other sizes, pea and smaller, the freight rate up to June 30, 1922, was $2.47; from July 1, 1922, $2.22 per gross ton. Rate to upper ports five cents higher.

* Prices after suspension.

BITUMINOUS, NEW YORK, F. O. B. MINES, 1923.

	Jan.	Feb.	March	April
Pool 1	5.50-6.00	4.50-5.15	4.00-4.75	3.50-4.50
9	5.00-5.50	3.75-4.25	3.25-4.00	3.00-3.50
10	4.50-5.00	3.25-4.15	2.75-3.50	2.35-3.00
11	4.00-4.50	2.70-3.15	2.25-2.80	1.90-2.75
54	3.50-3.75	2.40-2.80	2.20-2.50	1.85-2.25
64	3.50-3.75	2.40-2.80	2.20-2.50	1.85-2.25

	May	June	July	Aug.
Pool 1	3.50-4.00	3.50-4.00	3.25-3.75	2.90-3.25
9	2.60-3.25	2.50-3.00	2.35-2.75	2.35-2.75
10	2.25-2.75	2.25-2.50	2.00-2.50	2.00-2.40
11	1.90-2.50	1.75-2.25	1.75-2.00	1.75-2.00
54	1.75-2.00	1.65-2.00	1.60-1.95	1.60-1.90
64	1.75-2.00	1.65-2.00	1.60-1.95	1.60-1.90

	Sept.	Oct.	Nov.	Dec.
Pool 1	3.00-3.50	3.00-3.25	2.75-3.25	2.75-3.25
9	2.30-2.75	2.25-2.50	2.00-2.50	2.00-2.50
10	2.00-2.30	1.90-2.25	1.75-2.25	1.75-2.25
11	1.75-2.00	1.75-2.00	1.50-2.00	1.50-1.75
54	1.65-1.90	1.50-1.85	1.50-1.75	1.50-1.75
64	1.65-1.90	1.50-1.85	1.50-1.75	1.50-1.75

Exports and Bunker Tonnage at New York.

The exports of coal and coke and foreign bunker tonnage supplied to vessels at the port of New York during 1922 and 1923 were:

Month	Anthracite		Bituminous		Coke		Foreign Bunker	
	1922	1923	1922	1923	1922	1923	1922	1923
January ...	3,477	8,408	3,883	26	611	1,536	156,224	123,439
February...	5,476	2,561	607	880	88	1,226	146,713	145,949
March	3,736	4,399	54	24	159	1,046	163,722	143,976
April	3,414	5,913	115	211	561	726	142,078	117,094
May	6,994	6,724	234	1,201	1,552	1,135	179,256	150,118
June	2,313	9,380	42	2,657	89	1,811	146,562	172,302
July	477	11,196	206	4,092	613	168	132,549	153,418
August	20	12,442	596	93	573	1,922	95,103	191,270
September..	10	6,663	687	3,887	106	869	107,727	180,644
October ...	17,066	6,373	556	37	628	886	116,160	149,929
November..	7,148	9,559	725	126	204	1,381	177,133	125,736
December..	9,147	2,711	....	1,654	1,231	300	144,064	93,169
Total...	60,278	76,269	7,808	14,888	6,415	13,006	1,706,791	1,747,044

BITUMINOUS, PHILADELPHIA, F. O. B. MINES, 1923.

	Jan.	Feb.	March	April
Pool 1	.....	4.65-5.00	4.35-4.75	3.80-4.20
9	5.50-6.00	4.20-4.50	3.50-4.15	3.00-3.50
10	5.15-5.40	3.65-3.80	3.00-3.35	2.45-2.85
11	4.25-4.50	3.00-3.35	2.25-2.85	2.05-2.45
54	3.50-3.75	2.40-2.80	2.10-2.40	2.10-2.35
64	3.50-3.75	2.40-2.80	2.10-2.40	2.10-2.35

	May	June	July	Aug.
Pool 1	3.80-4.20	3.35-4.00	3.30-3.90	3.20-3.65
9	2.70-3.35	2.45-3.05	2.40-3.00	2.55-3.00
10	2.20-2.60	2.00-2.40	2.20-2.35	2.15-2.45
11	1.85-2.20	1.70-2.10	1.75-2.00	1.75-2.00
54	1.75-2.00	1.65-2.00	1.40-1.80	1.60-1.90
64	1.75-2.00	1.65-2.00	1.40-1.80	1.60-1.90

	Sept.	Oct.	Nov.	Dec.
Pool 1	3.00-3.50	3.00-3.30	2.80-3.20	2.75-3.20
9	2.50-2.80	2.35-2.60	2.15-2.45	2.25-2.50
10	2.10-2.35	1.90-2.20	1.70-2.00	1.75-2.00
11	2.00-2.20	1.70-1.85	1.60-1.70	1.60-1.75
54	1.65-2.00	1.55-1.80	1.55-1.75	1.55-1.75
64	1.65-2.00	1.55-1.80	1.55-1.75	1.55-1.75

During 1923 Great Britain shipped 49,884 tons of coal to Newfoundland and Labrador, compared with 82,406 tons in 1922.

THE YEAR 1923 AT BOSTON

Practically Continuous Decline in Bituminous from January On—Trade Faced All Kinds of Obstacles.

The year 1923 cannot be considered exactly a normal one, in view of the practically continuous decline in bituminous prices which stood at their high the first week in January and from that time tobogganed steadily until the following winter. For New England interests it was a year of embargoes, of transportation difficulties in the early spring, of overseas competition, as well as the more strenuous competition of fuel oil, a year of peak costs and low selling prices, accentuated by congestion in New England ports, with consequent heavy demurrage charges. In price trend, it was exactly like 1921, when prices kept falling the entire year.

In early January, stormy weather held up vessels from Norfolk and prices were reported as high as $11.50 gross ton on cars, Boston, though $11.00 to $11.25 were the more general quotations for Pocahontas and New River coal. British coal kept arriving in Boston despite bad weather and it reaped the advantages of the high levels prevailing.

Easing in prices began almost at once, however, British coal no doubt being a factor. By the third week in January, $10.50 was quoted for Pool 1 Pocahontas and New River coal, with shippers showing no disposition to buy in quantity. The inadequate dockage facilities in Boston caused increasing delay in unloading, so that some boats had to wait from 10 days to two weeks for a berth.

The embargoes instituted in January, affecting rail coal, helped to shift almost entirely to Southern bituminous, though the continued heavy production of about 11,000,000 tons weekly, together with an agreement of the U. M. W. with operators of Ohio, Illinois and Indiana, thus eliminating strike possibilities, relieved consumers of any anxiety over future supplies. Hence buying began to lose its briskness. At the end of January, Pocahontas and New River Pool 1 coals were selling at $10.50 to $10.75 gross ton at Boston, $10.75 at Providence and $11.00 at New Haven. Pennsylvania coals were easier, with Pool 10 selling freely at $4.50 net ton mines and Pool 9 at $5.25.

Shippers Hard Put in February.

February saw no improvement in the transportation, shippers being hard put to satisfy customers in out-of-the-way places, and congestion being productive of demurrages in Boston harbor. Shippers complained that the shortage of empties was accentuated by the railroad attaching a goodly proportion of empties for its own uses, leaving an inadequate amount for industrial use. Tonnage piling up at Hampton Roads caused price declines at that point to as low as $6.50 gross ton f. o. b. in the middle of the month and to $6.25 a week later, only to have quotations strengthen to around $7.00 at the end of the month.

Little Pennsylvania coal found its way to New England during a good part of February, due to transportation delays and embargoes. Prices were lower with Pool 1 being offered at the end of the month at $4.25 to $4.40 and Pool 9 from $3.75 to $4.25.

March found further embargoes placed against all-rail shipments of bituminous

into New England, making the delivery of fuel one of delay and uncertainty. Harbor delays continued at Boston, while at Providence three weeks' detention was reported, with conditions nearly as bad at New Haven.

Boston prices in the early part of the month held around $10.25 to $10.50, with sales up to $11.50 at the Boston & Maine points, while on the Boston & Albany, shippers were open to orders all the way from $9.00 to $9.50 on cars Boston. Snow and cold weather operated to hinder deliveries. Spot business was reported light, despite the fact that reserves had been drawn down to a considerable extent. Consumers were firm in their belief that lower prices must follow the opening of the new coal year.

Prices of bituminous the last week in March showed the effects of consumers holding off, with the general level of quotations between $8.75 and $9.00 on cars Boston, while the minimum at Providence stood at $9.00 for Pocahontas or New River Pool 1 coal. Congestion in the various New England harbors was evident all the month, there being as much as 100,000 tons awaiting discharge in Boston at one time, while at New Haven 30 vessels were awaiting berths. Prices at the Southern piers eased about 25 cents to $6.75 gross ton f. o. b. Hampton Roads.

Little business was done in Pennsylvania coals near the seaboard despite lower prices. Pool 9 was offered as low as $3.50 and Pool 10 at $3.00, while Pool 1 was sold at $4.00. Very little contracting was noted, consumers being willing to wait still longer for lower prices. The situation appeared to be so mixed that neither shippers nor buyers were willing to take a definite stand.

Unsatisfactory in April.

April business was very unsatisfactory to sellers of spot coal and conditions in general were characterized as "terrible" by many shippers. New England ports continued to be glutted with coal and the railroads were "plugged tight." While some embargoes were released, others were put into effect. Prices declined in consequence of the surplus of fuel awaiting distribution and the average of quotations for the greater part of the month hung around $8.50 a gross ton on cars Boston.

Toward the last of April further easing was in evidence and some figures of $8.00 on cars were noted, though this was the absolute bottom and was regarded as distress coal. A price of $8.25 was the more general level and even these more moderate quotations failed to bring out additional buying. These prices were for Southern coals, which furnished the bulk of the seaboard sales. April contract coal was $8.50 on cars.

The demand for Pennsylvania fuels showed no increase and declines were registered here also. Pool 1 was weak around $3.75 in the early part of April and continued soft, with $3.50 quotations near the end of the month. Pool 9 from $3.50 dropped to $3.00 and Pool 10 from $2.75 to $2.50.

During this period quotations to New England and interests at Norfolk eased from $6.75 to $6.25. This softening was not noticeable in the list of published bids covering some 26,000 tons of coal for the city of Boston, which ranged from $8.49 alongside to as high as $9.90, which seemed to indicate a more confident feeling among the shippers.

The B. & M. embargoes were lifted about this time, allowing an easier flow of Pennsylvania coals. Some optimistic statements were made which strength-

ened the hopeful attitude, such as the beilef that there would be a shortage of labor, that Europe would buy our coals because of the Ruhr trouble and the fact that industry was operating at 100 per cent capacity.

The range of prices for Pool 1 Pocahontas and New River coal on cars Boston was comparatively narrow in May, firmness or at least steadiness being predominant. For the greater part of the month $8.25 represented the bottom and about $8.50 the top, with 15 to 25 cents more demanded at New Haven and Providence.

Decidedly Competitive Market.

Bookings were scanty, however, and salesmen found a decidedly competitive market. Detention was still a factor in Boston harbor, two weeks being the average waiting time for space at Mystic piers in the early part of the month. The rail situation showed little amelioration, the lifting by the New Haven of its embargo on May 19th being counteracted by the New York Central embargo against the Boston & Maine. However, coal was coming in so fast into New England that the roads were finding it difficult to handle. Pennsylvania prices went lower on the medium to good grades, Pool 9 falling to $2.50 to $2.75 and Pool 10 to as low as $2.15 net ton mines.

A résumé of the coal business in June would indicate that consumers had gone on a buying strike. Dullness and even apathy was the chief impression gathered by reports of representative shippers. The price slowly softened from an $8.00 on cars figure at the beginning of the month to $7.25, during which decline buyers continued to remain onlookers. It has always been noted that New England interests refrain from purchasing on a declining market and it cannot be gainsaid that they have been the better for it in many instances.

In July and August, prices of the best Southern coals held comparatively firm, the entire decline for that period totalling only about 25 cents, this despite the fact that the needs of Great Lakes' consumers had been taken care of. Certain shippers affirmed that they sold no first quality coal below $7.00 in July and none below $6.75 in August.

There was better buying reported in this period, many consumers having faith that prices would not go much lower, particularly as the shippers from whom they bought were confident that the bottom was near at hand. Geological Survey figures showed that New England consumers had on the average 60 days' supply, while New Hampshire users had 90 days' stocks. An Associated Industries of Massachusetts' survey showed that manufacturers of the State had on June 1st, 17.58 per cent of their year's coal requirements on hand compared with 23.87 per cent on June 1st the year before.

Prices at the end of August for spot Southern coal held around $6.60 on cars at Boston, with part of the tonnage moving at $6.50, while the all-rail market was dull at $3.00 to $3.15 for Pool 1, $2.50 for Pool 9 and $2.00 to $2.25 for Pool 10. Hampton Roads prices ranged between $5.00 and $5.10 gross ton f. o. b. piers.

Consumers Indifferent.

In September, consumers displayed general indifference and this apathy was reflected in offerings of spot coal by various shippers at concessions under the prevailing level, so that the price structure became gradually undermined. Production at the mines held at the 11,000,000-ton per week level, a fact interpreted

by buyers as indicative of no shortage of fuel, even if industry went ahead full tilt.

At the end of September, $6.35 would be accepted for Pool 1 Southern bituminous and as October came on, the decline continued, the price level losing five or ten cents a week, with occasional steadying influences which raised the spot quotations slightly. At Hampton Roads the price slipped off also week by week, so that in the last week in October, $4.50 was pretty well established as the prevailing quotation.

October shipments of Pennsylvania fuels held steady, with little or no spot market near the seaboard but with a substantial flow on monthly contract to inland points. Pool 1 held to the minimum of $3.00 net ton mines, with a range for Pool 9 of from $2.35 to $2.75 for the choicest.

Shippers were uniformly agreed that October was deadly dull and though they would not predict as to future prices, felt that the price of $6.00 gross ton on cars Boston, was pretty near bottom, though there were instances of concessions from this level of 10 to 15 cents, to clean up cargo left-overs.

November revealed no bullish factors for bituminous shippers and operators, though there were sporadic instances of large buying which temporarily stiffened the spot market. The first week of that month there was a dismaying drop in the price of the best Southern coal of fully 50 cents at about $5.50 on cars, a figure which sellers asserted could mean nothing but red ink figures. Quotations at Hampton Roads dropped to $4.25 f. o. b. and a few days later to $4.10, which was followed at Boston by a decline to $5.00 gross ton on cars the second week of the month. This was said to be an unheard of figure, considering wages and freight rates, and was the lowest price remembered by coal men since 1915, when costs were much higher.

In view of the fact that Hampton Roads prices would not actually justify anything less than $5.50 on cars Boston, it was suggested in some sections of the coal trade that a price war was on, aimed at the host of small shippers. However, this dip to $5.00 or $5.10 was succeeded by a recovery to $5.60 at Boston and to $4.40 at Norfolk. Some fair-sized selling was reported at these latter levels though buyers showed no disposition to rush, despite the rebound.

Prices Become Firmer.

December ushered in a period of stability and even of firmness, for quotations in Boston were advanced somewhat and for the greater part of the month held at levels of between $5.60 to $6.00, with the greater movement apparently taking place near the lower of those quotations. Near the end of December $5.75 was the prevailing figure.

Curtailment in the New River and Pocahontas fields served to aid in this firming process, operators not caring to sell coal at levels so near cost. As for shippers to New England, these also complained that there was little or no money with bituminous at $5.75 on cars Boston or Providence, while it held at $4.50 to $4.60 at Hampton Roads.

Quiet prevailed in Pennsylvania fuels in December, with quotations slightly below October prices. Pool 1 coal moved at $2.85 to $2.95, Pool 10 at from $2.00 to $2.25, and Pool 9, a more popular fuel, around $2.35 to $2.50.

All in all, it was a year in which neither Southern nor Pennsylvania bituminous shippers had what could be called a sinecure. Business had to be fought for

and profits in the latter half of the 12-month period were of a very scanty nature for a great many shippers.

Anthracite.

The year in anthracite, if shippers' word is to be taken, was an abnormal one. The period was marked by much public agitation and legislative action against high prices, a strike of considerable duration, the enlarging competition of oil and soft coal substitutes, and the injection of the hard coal problem into politics.

The year started out with prices around $13.50 gross ton mines for independent nut and stove coal and a widespread scarcity in New England. Pea was hard to obtain, available tonnages selling for as high as $11.75 to $12.00, while buckwheat sold from $5.75 to $6.75 at the mines.

Anthracite came in large quantities to relieve the demand, as much as 700 cars being handled in one day by the New England roads and the average reaching 505 cars daily.

The scarcity continued through February, with newspaper headlines damning the coal trade and talking about coal being "held back" so that the public could be "gouged," another popular word. Substitutes were not in favor, though coke was being pushed. Near the end of the month, buckwheat had dropped to $4.75, but the other sizes held firm.

March saw a steady decline in independent prices, the last week in that month showing prices of $10.50, with some independents shading to $9.75 while buckwheat broke rather badly to $3.50 to $3.75. In April there was a further drop to $9.50@ $10.00, with a firming tendency later in the month to $10.25 gross ton for egg, stove and nut.

In May householders began buying for their winter's needs and prices strengthened to $11.25 with pea selling around $8.00, and in June prices rose to as high as $12.00 at the mines. The talk of strike possibilities drove quotations still higher, with $12.25 being obtained in July for stove and nut, while pea remained stationary.

Boycott Proposed.

Prices continued to climb as indications became more definite with regard to the strike in the anthracite fields. Prices climbed to $13.50 at the mine in August and with higher retail prices, the Massachusetts legislative committee on coal investigation proposed an anthracite boycott. By the end of the month as high as $14.25 on independent coal was quoted and the mayors of the New England States got together in Boston to seek a remedy, urging federal action by President Coolidge. The city of Boston planned to get a large tonnage of Welsh anthracite. Substitutes were urged by Fuel Administrator Hultman of Massachusetts.

In September, despite the strike, prices began to recede. The 18-day suspension caused no shortage. At the end of the month, quotations were $12.25 to $12.75 for stove, egg and nut, while pea sold at $8.25. Prices held around these levels until the last week in October, when an easing occurred, particularly in egg and pea.

November prices were firmer again though the mild weather had its inevitable effect. Demand was slow generally, householders being pretty well provided for. By the middle of December, prices had slid off to $9.75 gross ton mines for egg, with $10.75 prevailing for nut and stove. Pea declined to $6.25 @ $7.00 and was plentiful. Unseasonable weather was the chief cause of the drop, though oil and gas competition no doubt were factors to be considered.

BOSTON COAL RECEIPTS

Receipts of coal at Boston, Mass., by water and rail, during 1923 and five years previous, were as follows:

Water	1918	1919	1920	1921	1922	1923
Anthracite	1,162,167	1,018,563	1,376,954	1,174,206	632,112	1,319,119
Bituminous	5,594,626	2,616,276	3,047,643	3,213,240	4,065,540	4,940,299
Nova Scotia	.....	.....	.....	.....	*1,463,584	*325,387
Rail.						
Anthracite	330,372	257,841	234,261	236,292	182,538	370,409
Bituminous	84,570	115,637	119,449	73,256	83,956	109,716
Total	7,171,735	4,008,317	4,778,297	4,696,994	6,427,730	7,064,930

*Nova Scotia and Great Britain.

Routes by which coal arrived, monthly, during 1923 were:

	Water			Rail	
Month	Anth.	Bit.	Foreign	Anth.	Bit.
January	98,274	424,877	96,394	31,932	8,461
February	102,055	428,220	102,096	31,411	12,848
March	147,329	526,478	67,761	33,058	12,291
April	116,484	466,832	29,010	31,274	15,227
May	139,535	433,005	.....	28,283	16,192
June	118,016	353,908	5,488	24,338	6,099
July	121,440	341,008	.....	28,016	7,945
August	110,569	419,319	.....	28,217	7,557
September	63,367	410,751	4,492	12,856	5,645
October	103,169	348,483	9,996	38,073	9,961
November	98,314	361,162	.....	38,271	5,149
December	100,567	425,246	10,150	44,680	5,341
Total	1,319,119	4,940,299	325,387	370,409	109,716

Below is a table of receipts of both bituminous and anthracite coal, in gross tons, at Boston, by months during 1921, 1922 and 1923, and by it will be seen at a glance the fluctuations in receipts:

	Bituminous			Anthracite		
Month	1921	1922	1923	1921	1922	1923
January	214,263	364,677	433,338	131,413	42,167	130,206
February	194,266	453,439	441,068	172,795	94,778	133,466
March	234,533	525,288	538,769	137,946	141,317	180,387
April	227,781	394,123	482,059	66,992	71,064	147,758
May	209,664	326,063	449,197	141,937	13,175	167,818
June	268,617	310,987	360,007	152,771	25,895	142,354
July	233,822	313,412	349,033	119,916	16,751	149,456
August	353,878	250,235	426,876	86,750	22,857	138,786
September	295,447	246,765	416,496	88,176	25,109	76,223
October	369,766	326,691	358,444	132,154	109,778	141,242
November	317,735	293,503	366,311	90,355	118,889	136,585
December	371,733	332,404	430,587	89,293	132,870	145,247
Total	3,291,505	4,137,587	5,050,015	1,410,498	814,650	1,689,528

Boston Receipts: All Gross Tons.

As New England coal trade situation was so acute in 1921 and 1922, interest is no doubt added to the presentation of figures showing the receipts of coal at Boston, principally by water, over a long term of years. The data given below represents authoritative figures on this subject:

Year.	Anthracite.	Bituminous.	Year.	Anthracite.	Bituminous.
1923	*1,689,528	5,050,015	1905	1,977,398	2,798,290
1922	*814,650	4,149,496	1904	2,002,779	2,515,490
1921	1,410,498	3,291,505	1903	2,151,545	2,263,729
1920	1,606,715	3,167,092	1902	1,015,404	2,224,508
1919	1,276,404	2,731,913	1901	2,126,411	2,113,302
1918	1,484,539	5,699,096	1900	1,938,733	2,050,500
1917	1,606,078	4,273,268	1899	2,166,452	1,698,105
1916	1,480,896	4,910,687	1898	2,185,806	1,709,166
1915	1,702,402	4,689,321	1897	2,023,318	1,534,886
1914	1,911,525	4,919,218	1896	2,156,179	1,329,083
1913	1,854,450	4,991,884	1895	2,516,343	940,967
1912	1,719,132	4,539,759	1894	2,237,599	921,883
1911	1,982,940	4,171,230	1893	2,221,878	1,193,896
1910	1,826,124	4,107,294	1892	2,065,536	870,271
1909	1,706,659	3,495,011	1891	2,039,443	1,070,088
1908	1,776,401	3,302,929	1890	1,740,564	964,857
1907	2,053,328	3,184,964	1889	1,647,368	914,966
1906	1,659,679	2,859,844			

*In addition to domestic tonnage received there were 325,387 tons of foreign coal in 1923 and 1,463,584 tons in 1922.

The variation in the amounts year by year is based upon several circumstances, a full explanation of which would require considerable detail. Not the least of the features is the growth of all-rail movement, this modern development materially affecting the relative importance of Boston as a coal receiving port for the New England trade.

Boston Prices F. O. B. Mines, 1923

	Jan.	Feb.	March	April
*Smokeless M. R.	8.50-9.00	6.50-6.90	7.00-7.25	6.10-6.50
Clearfield M. R.	4.50-5.25	3.50-4.25	2.65-3.50	2.40-3.50
Cambria M. R.	5.00-6.00	4.25-4.75	3.50-4.25	3.25-4.10
Somerset M. R.	4.75-5.50	3.75-4.50	3.00-3.75	3.00-3.75
	May	June	July	Aug.
*Smokeless M. R.	6.75-7.00	5.75-6.00	5.25-5.50	5.15-5.50
Clearfield M. R.	2.25-3.25	2.00-2.75	2.00-2.75	2.00-2.75
Cambria M. R.	3.25-4.00	2.75-3.25	2.50-3.25	2.50-3.25
Somerset M. R.	2.75-3.50	2.50-3.00	2.25-3.00	2.25-3.00
	Sept.	Oct.	Nov.	Dec.
*Smokeless M. R.	5.00-5.10	4.60-4.75	4.35-4.50	4.35-4.50
Clearfield M. R.	1.80-2.50	1.50-2.50	1.50-2.50	1.60-2.25
Cambria M. R.	2.50-3.25	2.25-3.00	2.50-2.75	2.00-2.75
Somerset M. R.	2.00-2.75	2.00-2.75	2.00-2.75	1.85-2.50

*F. O. B. Hampton Roads.

YEAR'S DEVELOPMENTS IN FAIRMONT REGION

All Production Records Have Been Broken, the 1923 Output Being 27,902,450 Tons, of Which 2,270,000 Tons Went to Lakes.

Coal production in northern West Virginia in 1923 reached 27,902,450 tons. This is a record output for this region.

In 33 out of the 52 weeks there was a production of 500,000 tons or more each. In 18 weeks the tonnage fell below the half-million mark, but in a number of instances only a trifle below.

The peak week for production was that ended May 26th, when 699,050 tons of coal were loaded. Thirteen weeks in the year the weekly production was above the 600,000 tons mark. The lowest week of the year was that ended December 1st, when only 368,150 tons were produced.

May, July and August were especially strong, and the figures show that during those three months more than a third of the year's tonnage was loaded—10,345,050 tons. This in part was due to the heavy lake shipments. Although only two companies shipped the bulk of this, the tonnage sent forward was very large in the absence of other markets.

During the year the non-union coal mines of the Fairmont region had been on the increase and their production was larger than ever. The vast majority of the mines along the Charleston Division of the B. & O. were working non-union. On New Year's Day, 1922, the non-union mines loaded 720 cars of coal. On April 1st, Eight-Hour Day, another of the recognized holidays of the United Mine Workers of America, the non-union mines loaded 700 cars of coal.

Railroads Take Heavy Tonnage.

Railroad fuel loading in northern West Virginia during the year was exceptionally heavy. The shipments will run 9,600,000 tons. Of that large amount, 6,710,000 tons were secured by the foreign carriers, while the local railroad fuel aggregated 2,890,000 tons. The bulk of the local coal out of northern West Virginia is secured by the B. & O. Railroad, although the Western Maryland takes a limited tonnage on its spurs.

A study of the year's statistics shows that 35.6 per cent of the coal mined in northern West Virginia went to the railroads.

Coal shipments to the lakes reached a new peak. Approximately 2,270,000 tons was loaded to lake ports from mines along the B. & O. and Scotts Run Railways. Lake shipments from operations along the Monongah, Charleston and Connellsville divisions of the B. & O. totaled 1,820,000 tons. All but 424 cars of the coal shipped to the lakes from mines on the B. & O. was confined to the Monongah Division. Mines along the Scotts Run Railway loaded approximately 450,000 tons of lake coal.

Tidewater Shipments Light.

It was an off year in this region for tidewater pier shipments. In March there was lots of excitement about the Ruhr strike, but it did not bring very much business to this field. It is estimated that perhaps 250,000 tons of coal may have gone forward because of conditions abroad. This coal went through the Holland

gateway and some was shipped to Hamburg. During the year the region is reported to have furnished some coal to Brazil, as railroad fuel, and to Argentine for general steam purposes. The largest percentage of the coal shipped to tidewater went coastwise to New England.

Price variations during the year were most unusual. The spot price during January and February was $2.75. In March it fell to $2.25, and in April it was down to $2.10. May saw a further drop to $1.75. The low mark was reached in June, when the spot price for mine-run was as low as $1.40.

Low Prices Force Shutdowns.

At that time many mines closed down. This, in a measure, caused the distress coal to disappear. With this dropping off of active mines, the price shot up to $1.65. In August it again took a backward turn and fell to $1.50. The tonnage in that month was especially heavy. A slight improvement was noted in September, when the price went back to $1.65.

Conditions did not vary much during October, November and December. The average spot price hovered around $1.60 during those three months. The average spot price of lump coal varied from $1.90 to $2.00.

Contract prices of mine-run ranged from $1.90 to $2.25, with $2 a fair average. Most of the railroads paid $2 for their coal on a contract basis. Slack during the year was contracted for at $1.25 and lump at $2.25.

It is thought that the average price for coal on contract and spot basis combined was about $2. The price of slack may have averaged $1.30 to $1.40. During the closing months of the year it sold for more than distress mine-run. The average price for lump was about $2.30.

Keen demand for slack was noted after the mines stopped loading lake coal in the middle of November. The sudden rise in slack prices was one of the unusual features of the year. Toward the end of 1923 the railroads began to order more coal. This was especially noticeable just before Christmas.

The labor situation in the region during the year had not been very satisfactory to the operators, who had been the victims of many local strikes. Fully twenty strikes occurred in the year, and all but one were "illegal." The operators prior to April 1st signed up the same wage scale as formerly held sway.

Tonnage Figures of Fairmont Region

There were 27,902,450 tons of coal mined in northern West Virginia in 1923. Production on the various divisions were as follows: Monongah Division, B. & O., 14,687,600 tons; Charleston Division, 1,168,100 tons; Connellsville Division, 197,100 tons; Cumberland Division, 1,831,950 tons; Monongahela, 3,971,600 tons; Scotts Run, 3,540,600 tons; Belington, Weaver & Northern, Western Maryland, 670,050 tons; Wyatt-Bingamon and Helens Run, W. M., 1,835,450 tons.

The Monongah Division of the B. & O. showed a production of more than double that of the previous year. In 1922 the division mined 127,403 cars, or 6,370,150 tons.

The Fairmont region in 1922 produced 14,904,500 tons, and 14,389,960 tons in 1921.

REVIEW OF CINCINNATI MARKET IN 1923

First Five Months Witnessed Fairly Good Business, But for Rest of Year Buyers Had Things Pretty Much Own Way.

The year 1923, speaking generally, was not a good one for the coal producers of the districts which sell through the Cincinnati market, though it opened with favorable conditions and for the first five months selling conditions were fairly prosperous. The revival of industry created an accentuation of steam and by-product demand which showed a gradual but steady development all along the line.

The steel industry especially went strong and domestic demand not only kept up for the winter months but showed an early start in advance buying. The stabilization of market rates during this earlier period of the year was in part due to restricted transportation conditions, which continued even into the season of settled weather.

Lake buying got a fairly early start, but as rail conditions got better and a strong pressure of supply and demand showed itself, prices went down until, in June and July, competition for the limited market was such as to reduce the margin of profit to a minimum and often to wipe it out entirely. The later summer and early fall months were marked by a constant excess of supply over demand and a consequent prevalence of unprofitable prices, in spite of the comparative activity of industry.

During this period of excessive production, demoralization in the larger consuming markets of industrial coals, such as Detroit, Chicago, Toledo and Dayton, came about by the free shipment of "no-bill" cargoes, which when sold under distress conditions went at a loss and often at a great loss. Distress prices, thus established, ruled the market there, with brief exceptional periods, for months.

It was during this period that most of the lake coal was bought and the prevalence of "no-bill" coal at the lake ports, often gave opportunity to lake buyers to make under-cost purchases, which they did not fail to take advantage of. This fact minimized where it did not wholly wipe out profits.

Less Contracting Than Usual.

On the first of April, which is the usual contracting time, the outlook for the miner and shipper seemed so favorable that they preferred to take chances on the open market than to tie up their production at the contract rates then available. In consequence of this fact, probably not over two per cent of the production was contracted to regular consumers of large tonnage, whereas the rule had been about 50 per cent.

The effect of having 98 per cent of the production on sale in the open market instead of 50 per cent soon became apparent as the restriction of car shortage gradually disappeared and brought a vast increase of tonnage to market. Competition for the insufficient area of consumption was so fierce as to create a situation favorable to the buyer and shrewd purchasing agents made the best of a situation which brought them a score of large daily offers of tonnage. The wild scramble for orders was their meat.

Smokeless coal had a fairly favorable season by reason of the better relation of demand to a much smaller area of supply. Domestic smokeless paritcularly held up well, selling earlier in the year at from $6.00 to $8.00 for lump and egg and rarely varying for any cause below the lower price named. There was a greater fluctuation and a weaker situation as to slack and mine-run, though the average situation as to these was favorable, and the price in the first half of the year never fell below profit-paying.

In the last few months of the year, however, with lowered domestic call due to mild temperature and the failure of demand in New England to reach expected heights, prices have broken down to $3.00 and $3.50 and mine-run was at $2.00 and $2.50 for westward delivery and $1.75 and $2.00 at tidewater.

There were brief spurts of foreign demand during the year, but they were neither numerous nor sustained and the prices warranted no enthusiasm over them. At the beginning of the year a live hope, at the close foreign business had distinctly failed in its earlier promise and was practically dismissed from the coal man's schedule of hope.

The year was comparatively free from labor disturbances. What troubles there were of this kind were small and local. As prices of coal went lower and lower in the fall, employing companies in practically all the non-union high volatile districts suggested to their miners that their employment would probably be steadier if there could be a return to the second wage scale of 1917. The miners consented and most of the mines accordingly readjusted to the lower scale, though there were some in each of the districts, usually those with large contracts at a higher price, which made no change.

The only trouble experienced was in the Harlan district of southeastern Kentucky, where miners affiliated with the U. M. W., though not recognized, went out in a spectacular way.

Curtailment Forced by Conditions.

With November came market conditions which absolutely forced a curtailment of production. Steam users had accumulated large reserves from distress offerings, domestic retailers, with low sales, had their yards and sheds full and lake buying for the year was completed. There was nothing left but to stop mining, which some of the large companies with well-made organizations and high overhead costs were slow to do.

By the middle of December, however, production in practically all the districts, including the smokeless districts of West Virginia, was down to about two days a week or about 33⅓ per cent of production. This condition of production appeared to equalize production and consumption and the distress coal, which had been so demoralizing a factor, gradually disappeared, to the substantial betterment of the market situation generally.

Cincinnati supplies have come, for the most part, by river transportation from the Kanawha and Logan districts of production. The season for the most part had been favorable to this movement. An average of from 100,000 to 200,000 tons of coal is brought every month in barges by half a dozen companies. This not only serves Cincinnati needs, but much of it is reshipped to points of consumption in the Central West and even in the extreme West.

Domestic prices have varied during the year between $7.00 and $8.50 for high volatile lump and between $9.50 and $11.00 for smokeless lump and egg. Less than thirty cars of anthracite coal came to Cincinnati during the year.

MINE PRICES IN CINCINNATI MARKET 1923

	January	February	March	April
Smokeless Lump	.... $8.00	$7.50-$8.00	$6.50-$7.00	....-$6.00
M. R.	6.00- 6.25	4.00- 4.25	4.00 ...	4.00 ...
Screened	6.00- 6.25	4.75- 5.25	4.00 ...	4.00 ...
W. Va. Lump	6.00- 6.50	5.00- 6.00	4.00- 5.00	3.25- 4.00
Gas M. R.	... 4.00	3.25- 3.50	2.75- 3.25	... 2.50
Steam M. R.	... 3.50	2.75- 3.00	2.50- 3.00	... 2.75
Screened	... 3.25	2.50- 2.75	2.25- 2.50	2.00- 2.50
S. E. Ky. Lump	6.00- 6.50	5.25- 6.00	4.25- 5.00	3.25- 3.75
M. R.	... 4.00	... 3.00	2.50- 3.00	2.00- 2.50
Screened	... 3.25	... 2.25	2.25- 2.50	2.00- 2.35
	May	June	July	August
Smokeless Lump	...- 6.00	6.25- 6.50	...- 6.00	6.00- ...
M. R.	4.00- 4.50	... 4.50	3.00- 3.50	2.75- 3.25
Screened	4.00- 4.25	... 4.25	2.50- 3.50	2.50- 3.25
W. Va. Lump	3.50- 4.00	3.25- 4.00	2.75- 3.50	3.00- 3.50
Gas M. R.	1.90- 2.00	1.25- 2.25	1.50- 2.25	1.65- 2.00
Steam M. R.	1.90- 2.50	1.25- 2.25	1.50- 2.25	1.60- 1.75
Screened	1.75- 2.00	1.00- 1.50	1.00- 1.15	1.00- 1.25
S. E. Ky. Lump	3.50- 4.00	3.25- 3.50	2.75- 3.25	3.00- 3.50
M. R.	1.95- 2.55	1.25- 2.25	1.50- 2.25	1.65- 1.75
Screened	1.60- 2.00	1.00- 1.75	1.00- 1.15	1.00- 1.25
	Sept.	Oct.	Nov.	Dec.
Smokeless Lump	6.00- 6.25	5.50- 6.00	4.00- 4.50	3.50- 4.00
M. R.	3.00- 3.50	2.50- 3.00	2.00- 2.50	1.75- 2.25
Screened	2.50- 2.75	1.75- 2.50	1.25- 1.50	1.00- 1.50
W. Va. Lump	3.50- 4.25	3.25- 3.50	... ...	... ...
Gas M. R.	2.00- 2.25	1.50- 2.00	3.00- 3.50	2.50- 3.25
Steam M. R.	1.75- 2.00	1.35- 1.75	1.35- 1.75	1.40- 1.75
Screened	1.00- 1.25	.65- 1.00	.40- 1.00	.80- 1.00
S. E. Ky. Lump	3.25- 3.75	3.25- 3.50	3.00- 3.50	2.50- 3.25
M. R.	1.75- 2.00	1.50- 2.00	1.35- 1.75	1.40- 1.75
Screened	1.00- 1.10	.65- 1.00	.40- 1.00	.80- 1.00

Converting a Locomotive to Oil.

The method of changing a locomotive from a coal burner to an oil burner is described as follows by the Chicago & North Western Railway:

"In equipping an engine to burn oil as fuel, the grates, ash pan, brick arch and front end spark arresting devices are removed. A tank to carry the oil is built to fit into the tender coal space, suitable piping with control valves is arranged to carry the oil and steam to the burner which is placed below the mud ring at the front of the firebox, steam heating devices are placed in the oil tank and around a portion of the oil burner supply pipe, a tight pan with only given air openings is constructed under the firebox and a brick lining is built over the pan and part way up the sides, front and back of the firebox.

"The firebox door is locked shut and only a small hole provided for observation of the fire and for sanding the flues."

IN THE NORTHWEST IN 1923

Trade Had Little But Trouble and Uncertainty During Year—Buyers Always Suspicious.

Another lean and weary year to the coal trade closed in the Northwest. It had little but trouble and uncertainty to offer to the men engaged in the business. Conditions were forced upon the trade which created suspicion and doubt with the buyers, and there were no ways by which the members of the trade could offset these. This section gets the brunt of such a situation from both sides, the pressure from the producing end and the battering from the consuming end. Standing between the two extremes, without power to control either, the wholesale and retail coal trade of this section had to endure with no hope to cure the ills objected to.

The year 1923 started out with a heritage of a hard coal shortage that meant and was speedily followed by a demand for substitutes, but general complaint at both their satisfaction and cost. The soft coal situation had about solved itself by the beginning of the new year. Production of soft coal was sufficient to have caught up with urgent needs when the new year opened, and the mild weather of the fall had held down on the pressure of buying so that there had been no serious crowding on the market.

When finally seasonable weather arrived last winter, it encountered a buying market which had been caught up sufficiently to resist the pressure that might be expected to come after a shortage and with severe weather. And there had not been a time since last winter, that the soft coal market had been other than a buyers' market.

The change of conditions in this territory had overturned the usual situation. The dock trade has had almost a monopoly of the bulk of the soft coal trade in the Northwest, up to the past few years. The all-rail trade worked in gradually through the more southern district, and to the Twin Cities some years ago. But during the past two or three years the all-rail shippers have been able to command a much wider trade area than ever before—and entirely at the expense of the dock trade area.

All-Rail Trade Growing.

Favorable freight rates from the Illinois mines to the Twin Cities enabled the southern Illinois shippers to work into this district and build up a business of considerable tonnage. The dock trade saw its field being shortened and cut into constantly, and could either cut its price or lose its business. Vigorous efforts were made to get relief through reduced freight rates from the docks failed. Some action was attained, but no relief followed, in an application before the Interstate Commerce Commission seeking relief from what was set up as a discriminatory general condition against the docks and in favor of the all-rail shippers. The hearing occurred during the summer, and the various steps followed, winding up with a report of the examiner, who proposed a reduction of the freight rate from the docks to the Twin Cities of 11 cents.

In the meantime, the all-rail shippers were not entirely happy. They had developed a wider field, and built up a tonnage which they naturally want to

continue. They watched the move on behalf of the dock interests, being prepared to protect their own interests as best they could. But following them came the all-rail shipper from the other fields, principally Kentucky, where a favorable low freight rate existed, and where it seemed possible for the producer to take a very low price at the mine. This meant that they could ship into the Northwest and lay down the coal at a price less than the Illinois shippers could.

The coal business has been in about the same state of commercial unrest that those pestiferous Balkan States of Europe have been politically, and have been facing the possibility of an outburst at any time. At no time during the year had there been an instant that there was not some sort of an action which might hold out hope for a change of freights or conditions. The history of these applications is such that any one at all experienced in the business ought to know better than to count upon them as having any hope for any real relief. But hope springs eternal. Otherwise it would seem that many would go out of the coal trade and go into promoting prize fights that call for no especial investment nor equipment and which yield such generous returns.

As a sort of counter-irritant, there was an action brought by the Federal Trade Commission against the dock association, alleging unfair trade practices. This action dragged along through some months, and what it will accomplish at the end of the year, if anything, was a matter of the unknown future.

In addition to the various all-rail competitions, lignite from North Dakota has also come into this field and has absorbed a moderate tonnage. While the total tonnage replaced by lignite may not be so great, yet it is a growing business, as long as it can be put in at a lower rate than other grades of soft coal. And this had also served to disrupt the general market.

Growing Use of Electricity.

Nearly three times as much electricity is made now as in 1912, according to a preliminary report just issued by the Department of Commerce. It covers the generation of electrical energy by electrical central stations, both commercial and municipal, and by electrical railways for the ten-year period, 1912-1922.

The official totals, which do not include the output of current by plants operated by mines, factories, hotels, etc., or of those operated by the Federal Government and State institutions, are as follows: 1912—17,621,808,893 kilowatt-hours; 1917—32,678,806,061 kilowatt-hours; 1922—45,307,536,711 kilowatt-hours.

From a survey based upon the rate of growth of the electrical industry, the new uses to which electrical energy is being put, and the extensions and alterations that have been made in 1923 or that are under construction, it is estimated that by 1935 our electric consumption will reach 150,000,000,000 kilowatt-hours a year, or more than three times the 1922 rate of use.

Of course the coal requirements of the electric industry are increasing, but as coal is burned more efficiently in central power stations than in the average steam plant, the growth in total consumption is less rapid than it would be if electricity was not displacing steam in the industries and even on the railroads.

YEAR'S BUSINESS IN CHICAGO

Continually Declining Market Experienced with Lagging Demand—Poor Year for Smokeless Coals.

Looking back over the twelve months of 1923 the Chicago coal men, including both retailers and wholesalers, see a condition which is anything but encouraging. A checking of the year's business shows a continually declining market, with a lagging demand for coal, a demand which apparently never caught up to the production during the entire year.

The first two or three months of 1923 were good for the coal men. Coming after the strike of 1922 the stocks of coal in the hands of consumers were anything but ample to carry on. Consequently, the early months were busy ones. This condition gradually gave way to one of over-production, lack of demand and brought about strong competition on the part of operators to move their stocks.

The operators and wholesalers who make a specialty of contract business were the ones who enjoyed the profits of the coal business in the Middle West during the year. The mines which were capable of carrying the contract business operated consistently during the year, while the other operators found selling on the open market on month to month orders, a most difficult problem.

Business conditions throughout this section of the country were on a sound footing and the consumption of coal should have been normal or better. The business of manufacturers in the Middle West has been steady and growing. The construction of new buildings was larger in Chicago than ever before on record. Steel mills, furniture factories, building material makers, in fact all branches of trade which enter into the construction or furnishings of homes had their biggest year in 1923.

Too Many Mines.

In analyzing the situation and discussing the reasons why Chicago did not enjoy a bigger coal business when trading in other lines was on such an active scale, a local wholesaler said: "It is evident that the country has too many mines, although I do not consider this the prime factor in the dull coal market. The weather has been against any large volume of coal sales."

At the close of 1923 the domestic coal situation was practically the reverse of conditions as there existed a year previous. Late in 1922 and early in 1923 the demand for domestic coal was good and the supplies very limited. At that time hard coal was exceptionally scarce and many householders resorted to substitutes for coal or used soft coal, hundreds of them burning western Kentucky or other bituminous products from nearby States. In the fall, and early winter, the supply of antiracite was ample to fill the requirements of dealers in this section. No scarcity was felt in any locality and no scarcity was looked for.

The use of coke for domestic fuel gained considerable headway during the past year. The fall is said to have been the best in history in sale of coke for domestic purposes. While the larger use of coke means greater coal purchases by coke manufacturers, this fact nevertheless detracts from the business of the wholesalers who are attempting to sell dealers domestic sizes of soft or hard coal. Coke sales for home and apartment building use were considered fair

early in the year, but when the fall season arrived, several coke plants entered into advertising of this fuel on a wide scale and the increase in sales was almost constant from that time on.

Just what influence the installation of oil-burning equipment has had on the market for domestic coals cannot be definitely stated, but there is no doubt that the great number of homes where this equipment has been installed will now total to a considerable loss in coal sales by dealers. Whether the oil-burning craze, or flurry, or idea, will be permanent or not is doubtful. Much complaint is heard of the noise and odor from such heating plants, and many cases have been reported by coal dealers where the home owners have already discarded the oil system and returned to coal. However, as far as the past year is concerned, the coal men have felt some loss on this score.

Pocahontas coal, usually a leader in the Middle West market, experienced one of its poorest years. With the exception of the first few months of 1923 Pocahontas was moved with increasing difficulty. Prices for Pocahontas were on the downward trend almost continuously for the last ten months of the year. On the basis of prices at the mines, Pocahontas coals were lower in prices in the fall than were the soft coals from Indiana and Illinois. Smokeless was more popular last year while the anthracite mines were tied up in strike.

Illinois and Indiana operators had their difficulties to meet during the year. The low price of smokeless coals, the plentiful supply of hard coal and the continual offerings of the low-priced fuel from non-union fields all worked to the detriment of the nearby operations. Running time of Illinois and Indiana mines average very low for the year, the last five months, instead of bringing up the average as usual in the late summer and fall, worked in the opposite direction.

Steam Business Staple.

Steam coal business was more staple than the domestic during the year. Most of the large users of steam coal contracted for their supplies and in this manner they were seldom in the market for additional coal. The railroads and public utilities contracted early and stored coal throughout the spring and summer months. The additional supplies they needed they picked up, usually under the price of their contract coal, on the spot market. The buyers of industrial coal were careful to watch for the "soft" spots in the year and to pick up a little surplus whenever the occasion presented itself.

Given the opportunity to place coal in the hands of new buyers during 1922, the operators of western Kentucky were enabled to carry over into 1923 many satisfied customers who found the products from the southern State satisfactory for their fuel purposes. The volume of western Kentucky coal coming into the Middle West, while not as large as the "strike year" of 1922, was better than previous normal years. Screenings from that field are produced and sold cheap enough to overcome the disadvantage in freight rates, while on the other hand the nearby States have the advantage of quicker service and closer contact between producers and users.

During the calendar year 1923 there were received at the Virgin Islands of the United States 11,892 tons of coal from Great Britain. No English coal was received during the year previous.

CHICAGO PRICES, 1923.

	Jan.	Feb.	March	April
Smokeless Lump	7.50-8.00	6.75-7.25	6.00-6.75	6.00-6.25
M. R.	6.25-6.50	4.50-5.00	3.50-4.50	3.50-4.00
Franklin Co. Lump	5.25-5.50	4.50-4.75	... 3.85	... 3.85
M. R.	3.75-4.00	3.25-3.50	3.25-3.50	3.00-3.25
Screenings	2.50-2.90	2.50-2.60	2.25-2.50	1.90-2.00
Central Ill., Lump	4.25-4.50	3.25-3.50	3.00-3.25	2.65-2.90
M. R.	3.25-3.75	2.50-2.75	2.50-2.75	2.00-2.25
Screenings	2.00-2.25	1.50-1.75	1.50-1.75	1.50-1.65
Indiana 4th V. Lump	5.00-5.25	4.25-4.50	3.50-3.75	3.25-3.50
M. R.	3.50-3.75	3.00-3.25	2.75-3.00	2.75-3.00
Screenings	2.40-2.60	2.00-2.25	2.00-2.25	1.75-2.00
5th V. Lump	4.00-4.25	3.50-3.75	3.00-3.25	2.75-3.00
M. R.	3.00-3.25	2.50-2.75	2.00-2.25	2.00-2.25
Screenings	2.10-2.40	1.75-1.85	1.50-1.75	1.50-1.60
West Ky. Lump	4.00-4.50	3.50-3.75	2.75-3.00	2.50-2.75
M. R.	2.50-2.75	1.90-2.00	1.75-1.85	1.75-1.85
So. E. Ky., Lump	6.00-6.50	4.50-4.75	4.50-4.75	3.75-4.00
M. R.	3.00-4.00	2.75-3.00	2.75-3.00	2.75-3.00

	May	June	July	Aug.
Smokeless Lump	6.00-6.25	6.00-6.25	6.00-6.25	5.50-6.00
M. R.	3.75-4.00	3.75-4.00	3.25-4.00	3.00-3.50
Franklin Co. Lump	3.50-4.00	3.75-4.35	3.50-4.35	3.50-4.35
M. R.	3.00-3.25	3.00-3.25	2.75-3.25	3.00-3.25
Screenings	1.60-1.90	1.75-1.85	1.50-1.85	1.50-1.85
Central Ill., Lump	2.25-2.35	2.50-2.75	2.50-2.75	2.50-2.75
M. R.	2.00-2.25	2.00-2.25	2.00-2.25	2.00-2.25
Screenings	1.75-2.00	1.50-1.75	1.50-1.60	1.35-1.50
Indiana 4th V. Lump	3.25-3.50	3.25-3.50	3.25-3.50	3.25-3.50
M. R.	2.75-3.00	2.50-2.75	2.50-2.75	2.50-2.75
Screenings	1.75-2.00	1.75-1.85	1.50-1.75	1.50-1.85
5th V. Lump	2.75-3.00	2.75-3.00	2.75-3.00	2.50-3.00
M. R.	2.00-2.25	2.00-2.25	2.00-2.25	2.00-2.25
Screenings	1.60-1.75	1.50-1.65	1.40-1.50	1.25-1.40
West. Ky Lump	2.50-2.75	2.25-2.50	2.25-2.55	2.00-2.25
M. R.	1.75-1.85	1.40-1.50	1.25-1.50	1.50-1.75
So. E. Ky., Lump	3.50-4.00	3.00-3.50	2.75-3.00	2.75-3.50
M. R.	2.75-3.00	2.25-2.50	2.00-2.25	1.80-2.25

	Sept.	Oct.	Nov.	Dec.
Smokeless Lump	6.00-6.25	6.00-6.25	6.00 ...	5.00-6.00
M. R.	3.00-3.25	2.75-3.00	2.00-2.50	1.75-2.00
Franklin Co. Lump	3.75-4.35	3.75-4.35	3.75-4.10	3.50-3.75
M. R.	2.75-3.25	2.50-3.00	2.75-3.00	2.25-2.50
Screenings	1.40-1.85	1.30-1.50	1.40-1.65	1.75-1.90
Central Ill. Lump	2.75-3.25	3.00-3.25	3.00-3.20	2.75-3.25
M. R.	2.00-2.25	2.00-2.25	2.25-2.40	2.00-2.25

	Sept.	Oct.	Nov.	Dec.
Screenings	1.20-1.45	.90-1.25	1.10-1.35	... 1.50
Indiana 4th V. Lump	3.25-3.50	3.00-3.50	3.25-3.65	3.00-3.50
M. R.	2.50-2.75	2.60-2.75	2.60-2.75	2.50-2.75
Screenings...	1.50-1.75	1.25-1.50	1.25-1.35	1.65-1.80
5th V. Lump	2.50-3.00	2.25-2.75	2.20-2.40	2.25-2.75
M. R.	2.10-2.35	2.00-2.25	2.00-2.10	2.00-2.25
Screenings .	1.20-1.35	.75- .90	.85-1.15	... 1.50
West Ky. Lump	2.50-3.00	2.50-2.75	2.40-2.60	2.75-3.00
M. R.	1.85-2.10	1.50-2.10	1.50-2.25	1.50-2.00
So. E. Ky., Lump	3.25-3.50	3.25-3.50	3.00-3.25	3.00-3.25
M. R.	2.00-2.60	1.75-2.20	1.50-2.25	1.75-2.00

RECEIPTS OF COAL AT MILWAUKEE

About 12 Per Cent Increase Over 1918 Figures Shown—May the Busiest Month.

Receipts of anthracite and bituminous coal at Milwaukee, Wis., by months, during the calendar year 1923 were:

Month	By Vessel		By Car Ferry		By Rail		Grand Total
	Hard	Soft	Hard	Soft	Hard	Soft	
January ...	.....	.....	18,047	65,451	.....	73,778	157,276
February ..	.....	.....	23,605	62,383	130	79,184	165,302
March	.....	.....	32,220	55,239	.....	179,024	266,483
April	.....	.....	18,427	80,176	.....	109,612	208,214
May	166,851	562,688	30,636	48,242	.....	50,428	858,845
June	124,668	532,163	27,977	31,495	50	42,124	758,477
July	161,789	453,895	24,768	41,986	3,400	61,341	747,179
August	148,154	274,447	16,408	35,478	.....	49,556	524,043
September .	32,177	262,151	14,114	39,662	3,341	43,569	395,014
October ...	150,685	512,357	16,097	41,612	.....	41,515	762,266
November .	146,400	558,021	16,625	40,140	.....	43,134	804,320
December .	35,500	83,000	10,814	33,791	750	49,910	213,765
Total ...	966,224	3,238,722	249,738	575,655	7,671	823,175	5,861,185

Receipts of coal at Milwaukee, Wis., during calendar year 1923 and five years previous were:

Coal	1918	1919	1920	1921	1922	1923
Anthracite ...	839,092	985,692	873,003	1,022,645	360,070	966,224
Bituminous ...	3,446,061	3,174,078	2,375,178	2,574,074	2,331,407	3,238,722
Total Lake..	4,285,153	4,159,770	3,248,181	3,596,719	2,693,477	4,204,946
By all-rail ...	728,851	532,936	1,154,964	1,820,178	429,684	830,846
By car ferries.	174,163	309,350	393,332	395,238	381,284	825,393
Total	5,188,167	5,002,056	4,696,477	5,812,135	3,502,445	5,861,185

The Irish Free State during 1923 imported 1,485,425 tons of coal from Great Britain.

AT PITTSBURGH IN 1923

Low Prices the Rule and Declining Market Tendency Observable During Entire Twelve Months.

Gauging an industry from the standpoint of profit, the Pittsburgh coal trade hardly experienced a successful year. Low prices were the rule and a declining tendency was practically the trend during the entire 12 months of 1923.

The outstanding factor in the consideration of why profits were small or why there were none at all, was the element of over-production of which perhaps the coal industry suffered worse than at any time in its history. In a year in which commodity prices showed a substantial advance, the coal market was buffeted and generally kicked around, always at the mercy of the buyer. Perhaps no other industry, with the possible exception of oil, suffered the demoraiization that was part of the coal trade in the past year.

During the entire year, the Pittsburgh coal trade had but one bright period and that was during the summer months when the flow of coal to the lakes proceeded in great volume. Even in this instance, however, the prices paid were in no wise extraordinary and offered not much profit to the shipper who was at the mercy of the lake buyer.

There was no great outstanding development in the trade during the year in the Pittsburgh district. The anthracite labor disturbance caused scarcely a ripple here and any prospect of a bituminous strike on April 1st was dissipated early in the year. In the latter part of January, operators from other districts met with the miners' representatives in New York and signed a contract for the continuation of the existing agreements for one year from April 1st. Promptly thereafter, the Pittsburgh Coal Producers' Association met with the sub-committee of miners' representatives from this district and also signed an agreement to continue the existing agreement for another year.

Railroads Unable to Supply Cars.

With all danger of a strike thus removed, the operators of the Pittsburgh district then directed their attention to the car supply situation, which was strangling the coal trade. The railroads were unable to supply cars to the mines and even if orders were on hand, they could not be filled. In January the car supplies at the mines of the district had fallen as low as 10 per cent of the mine capacity for loading.

It was at this juncture that Richard W. Gardiner, then Commissioner of the Pittsburgh Coal Producers' Association, complained to the Interstate Commerce Commission that an impending bituminous coal shortage was being aggravated by lack of engines to move the cars. He charged that preferential treatment was being accorded to other industries, stating that where the coal car supply ranged from eight per cent to 18 per cent, the coke trade was given 89.2 per cent car supply, ore 91.2 per cent and steel 73.8 per cent. The railroads then promised to improve the situation.

At practically the same time, the U. M. W. abandoned the strike that had perfunctorily been kept alive in the non-union Connellsville district. Miners had been living in tent colonies and in other ways suffered the effects of unem-

ployment. Their reaction to the abandonment by the union was one of denunciation, so that the union spirit was stifled in the Connellsville district for years to come.

Coal prices in January were at the highest point of any time during 1923. This was due to the lack of cars and the general breakdown of transportation facilities. Steam mine-run sold at the start of the year at $3.50 and $3.75. Steam lump ranged from $4.50 to $5.25. Gas mine-run was $3.75 and lump $4.75 to $5.25.

Coke was at the highest price of both 1922 and 1923, selling at $9 a ton. The decline in price from the first week in January, however, was rapid. By the first part of February the market was $7.00 to $7.50.

Embargoes on various railroads were unable to hold up the coal market and it swung into February with mine-run steam down to $3.00 to $3.15. The lump dropped to $4.25. Gas mine-run was $3.50 and lump at $4.50 top.

Orders Cancelled.

In February cancellations began to come in with a sagging market. The car supply was relieved to a great extent and some distress coal began to appear. The market swung into March with steam mine-run down to $2.25 to $2.50. Three-quarter was $3.25. Gas mine-run dropped to $2.75 to $3.00

Some of the mines began to shut down until the lake season opened. Prices continued to go down. The Pennsylvania and other railroads appeared in the market offering some cheap contracts.

The first week of April found the lake movement getting under way. Prices were soft, however, in the spot market. Mine-run steam was down to $2.00 and the best steam lump price was $2.60. The gas mine-run market was $2.30 to $2.50 and $3.00 to $3.25 for lump. Furnace coke dropped to $7.00.

Cold weather held back the steamers at the lakes. The Pittsburgh Coal Co. was sending 200 cars a day to the lake ports. The car supply opened up further. Steam slack began to form a drug on the market with three-quarter coal being shipped to the lakes. Steam mine-run in the first part of May was $1.75 to $2.00. Many brokers sold slack short and the price advanced. Steam lump was $2.50 maximum. Mine-run gas was $2.00 and lump from $2.25 to $3.00.

In May the lake shipments became so heavy that embargoes were ordered and prices stiffened somewhat. Steam mine-run at the end of the month was $2.00 to $2.25 and lump up to $2.75. Gas mine-run was $2.00 to $2.25 and lump up to $3.00. Furnace coke sold at $6.00.

Strength Disappeared in July.

The market moved into July with the strength disappearing. About half the mines had become idle due to lack of business and prices were off about 25 cents. The coke market fell to $5.00. The lake business was not up to expectations and the Pittsburgh Coal Producers' Association appealed for better freight rates.

In the first part of August steam slack dropped to $1 a ton, the low point for the year thus far. The steam market was unchanged but the gas grades were weak. Lack of buying on the B. & O. was given as the reason. Coke dropped to $4.50. The first of the fall cement company buying appeared and the danger of an anthracite strike put some enthusiasm into the market. This was reflected in a better price for coke toward the end of the month.

In the first part of September, steam slack was back to $1.50 to $1.60. Domestic demand sent steam lump up to $2.60 to $2.70. Gas mine-run was $2.35 to $2.50 and the screened sizes were up as high as $2.80. Furnace coke was up to $5.25. But this advance was short-lived. Distress coal was growing in volume and steam slack was back to $1 by the first part of October. Domestic lump sold as high as $3. Mine-run gas was $2.00 to $2.30 and the lump $2.65 to $2.90. The coke market settled to $4. During October steam slack fell as low was 75 cents, mine-run to $1.75 to $1.90, while industrial lump was $2.30. There was an enormous amount of distress coal on the market. Gas coal was weaker with lump selling at $2.50 to $2.60.

The market dragged through November with the exception of fluctuations in slack. In December, cement company buying sent steam slack up to $1.60 and gas slack equally as high. Pittsburgh district steam mine-run increased to $2.00 to $2.10, but the prepared sizes were weaker to unchanged due to the lack of orders for screened coal. Industrial plants were not buying, but railroads were appearing in the market. Domestic demand fell off as consumers satisfied their wants.

With the close of the year, the attention of producers and shippers was again directed toward the labor situation with the possibility of an interruption in work on April 1st, 1924, when the district agreements expire. Producers were hesitating in making contracts. There was a widespread demand that some adjustment be made in view of the poor year in 1923.

MINE PRICES QUOTED IN PITTSBURGH MARKET.

	Jan.	Feb.	March	April
Pitts., Screen Gas.....	4.50-5.25	4.00-4.25	3.25-3.75	3.00-3.25
M. I. Steam.....	3.00-3.50	... 2.75	2.25-2.50	1.75-2.00
Slack Gas	3.15-3.25	2.75 ...	2.25-2.50	2.00-2.25
	May	June	July	Aug.
Pitts., Screen Gas.....	2.75-3.00	2.75-2.90	2.60-2.75	2.75-2.90
M. I. Steam.....	2.00-2.25	2.00-2.10	1.90-2.10	2.00-2.15
Slack Gas	1.75-2.00	1.50-1.75	1.30-1.50	1.50-1.60
	Sept.	Oct.	Nov.	Dec.
Pitts., Screen Gas.....	2.50-2.75	2.50-2.60	2.50-2.60	2.50-2.60
M. I. Steam.....	2.20-2.30	1.75-2.00	1.85-2.00	2.00-2.10
Slack Gas	1.45-1.50	1.15-1.30	1.00-1.15	... 1.50

Enough time has elapsed since the war to give occasion for some ups and downs. One might refer to the post-war lull in 1919 and the great feverish spurt of activity in 1920, with a sweeping depression in 1921 and a very notable revival in the early part of 1923. The changes have been rapid, but followed other earlier experiences to a certain degree, for it might be stated that the financial unsettlement of 1866 was followed by feverish activity, leading up to the panic of 1873. Present banking arrangements, with means of augmenting the currency supply, will prevent such panics as were seen in '73 and '93, but aside from that detail history seems to be repeating itself. It will be better for all when a period of moderation of prices sets in, as prevailed for a long time in the '70's and '80's.

PHILADELPHIA IN 1923

Strong Demand for Anthracite Experienced Throughout Year—Too Much Bituminous on Market.

It is hardly necessary to say that the year 1923 was a trying one to the retail coal dealer, as this seems to have been the rule for a number of years past The year started out with coal extremely scarce, with independent prices ranging from $10.75 to $12.00 for family sizes. Retail quotations at this time ranged from $14.50 to $16.50 for the large sizes, with pea from $11.25 to $12.00. However, with a mild January the consumer demand was not extraordinarily active, but this was greatly changed with the coming of February, when some severe cold weather tightened up the market.

During January and February many of the dealers had recourse to substitute fuels, such as sized coke and bituminous coal. This fuel moved quite well, particularly coke, while the cold weather prevailed, but fell away to almost nothing when the urgency for fuel had passed.

There continued to be a strong demand for coal right up to the first of April, and no dealer had at any time received as much coal as he desired. But with the coming of spring the need for current use dropped down a bit, which caused independent prices to run off to about $9.50 for the sizes and $7.00 for pea, although retail prices changed very little. At this time talk of a strike on September 1st stirred the public to a sense of necessity to protect themselves for the next winter, and the dealers were flooded with orders for stocking during the summer.

All summer long the dealers strove earnestly to have their shippers take care of their needs, but at no time from April 1st to November 1st did any one receive coal in the quantity desired. However, they all received some coal, and if the facts were known it can be said that they had one of the best summers on record, despite the fact that they claimed they were being discriminated against in favor of other markets.

Pinchot's Plan Criticised.

As September 1st approached there was added activity to get coal on the part of the consumer, yet even this was not to the degree that might have been expected. Most of the public agreed that the proffer of Government intervention would quickly end the trouble. Yet when the difficulty was settled by the men going to work on September 19th, being out since the first of the month, there was great criticism of the acceptance of Governor Pinchot's plan of a 10 per cent increase in wages.

Mine prices were increased on account of the wage advance, the top price for company coal being $8.75 and independent coal $12.50. Retail prices advanced from $15.50 to $16.25 for sizes, and $12.00 to $12.25 for pea.

Anthracite steam sizes started out quite briskly at the first of the year, quite considerable independent coal sold at $5 a ton. This continued until March, when dragginess was apparent and there began to be sales of buckwheat at $2.75 and from this point on there was much heaviness in steam coals. At the end of the year the companies were storing heavy tonnages and the independents

were cutting from 75 cents to $1.00 on buckwheat and rice. Barley was in better demand, but even here there were considerable cuts.

Bituminous Situation.

The bituminous market came into the new year with much strength from the preceding twelve-month, as the following spot prices current about this time would indicate: Pool 1, $5.75 to $6.15; Pool 9, $5.50 to $5.75; Pool 10, $5.00 to $5.40; Pool 11, $4.40 to $4.90. From this point there was a gradual decline, with the bottom being reached about Novermer 10th, with prices on Pool 1, $2.75-$3.20; Pool 9, $2.10-$2.50 Pool 10, $1.95-$2.25; Pool 11, $1.65 to $1.85.

The best month of all for demand was in January, and much trouble at that time was experienced with the car supply, which did much to keep up spot prices. Inasmuch as the miners were pushing for a new wage agreement to become effective April 1st it was expected that prices would take a decided upturn about that time. This was forestalled by the fact that the new agreement was negotiated in January and there was a decided tendency to dullness in the market from that time onward. Consumers who had loaded up with stocks in anticipation of trouble proceeded to burn this fuel and did not trouble to replace it.

In February following the wage agreement contracts for the coming year were being offered at $3.80, which seemed to be the accepted figure, but even at this the consumer was not particularly anxious to close. As the summer disclosed lower and lower spot prices it began to look as though the buyers of contract fuel at $3.80 were sorry for their bargain and they were no doubt tempted to buy cheaper coal on the market. So pronounced did this become that there was a general reduction of contract figures to $3.50, mostly effective as of November 1st.

The order of the I. C. C. prohibiting the use of private cars after September 1st caused much comment at the time, but inasmuch as the effective date had been postponed at least three times, awaiting a court decision, the question almost ceased to be of interest.

As the year closed no signs of a betterment in market demand were seen, especially as the industrial situation seemed just a trifle laggard. Nevertheless, as the optimists in the trade claim, it always did get better some time, they expected that the turn in the road would soon come again. Of course the general complaint was that there were too many operations trying to find a market for fuel, which was proved by the tonnage actually sent to market and consumer. The chief idea seemed to be that industry in this country will grow and grow as it always has grown and the time will come when the consumer demand will more than catch up to production.

During 1923 the average number of tons of coal per car loaded on the Norfolk & Western Ry. increased to 60.17, while the highest previous average was in 1922, when it amounted to 56.67 tons. While the figures are not available for comparison, it is believed that the Norfolk & Western Ry. 1923 average loadings per car exceeded that of any railroad in the country.

Imports of coal into Messina, Italy, during 1923 amounted to 120,000 tons, against 146,000 tons in 1922.

Exports from Philadelphia.

The exports of coal and coke and bunker tonnage supplied to vessels during 1922 and 1923 were:

Month	Anthracite		Bituminous		Coke		Bunker	
	1922	1923	1922	1923	1922	1923	1922	1923
January	3,399	3,229	12,876	9,853	258	2,183	18,681	16,130
February	10,120	6,184	23,044	5,468	1,373	783	21,365	19,889
March	8,774	5,724	20,022	21,972	1,143	28,330	29,801	27,998
April	702	5,293	10,602	46,532	1,683	71,796	24,095	32,122
May	4,393	4,830	5,600	47,770	1,201	20,025	16,565	25,932
June	....	5,334	5,722	58,841	3,129	1,640	10,155	27,581
July	....	11,651	1,119	30,960	608	3,504	8,860	29,749
August	....	4,090	1,080	17,182	1,060	1,202	6,588	28,541
September	....	3,654	3,550	28,168	....	1,700	9,904	24,856
October	4,217	1,172	14,037	10,953	1,031	2,862	9,787	13,798
November	6,652	1,745	16,563	4,071	1,960	1,917	15,984	21,503
December	4,202	50	11,632	20,970	1,032	603	11,864	17,533
Total.....	42,459	52,956	125,847	303,146	14,478	136,545	184,649	285,632

Gas Industry in 1922.

The following figures relate to the amount of coal used in making gas in 1922, together with other details of the gas industry in the United States:

Gas produced (M cubic feet):	
Coal gas	46,148,696
Water gas	210,252,585
Oil gas	24,763,793
Coke-oven gas	442,671,114
	723,836,188
Gas sold (M cubic feet):	
Coal gas	42,151,110
Water gas	193,543,286
Oil gas	21,736,446
Coke-oven gas	231,383,018
	488,813,860
Number of active gas plants:	
Coal gas	353
Water gas	579
Oil gas	73
Coke-oven gas	64
	1,069
Fuels used in gas manufacture:	
Bituminous coal (net tons):	
Coal and water gas..	4,311,359
Coke ovens	41,052,670
Coke (net tons).....	2,602,672
Anthracite (gross tons)	864,834
Oil (gallons)	856,008,712
Average yield of coal gas per ton of coal carbonized (M)	10.7
Coke sold, by coal gas plants:	
Quantity (net tons)...	1,387,658
Average price per ton..	$8.67
Value of products of the by-product coke industry:	
Coke	$188,276,767
Gas sold	38,624,515
Other by-products sold.	46,346,647
	273,247,929
Total value of sales of products of manufactured gas industries, excluding by-product coke.	$400,836,532

JOHNSTOWN IN 1923

Prosperity Which Marked Opening of Year Has Gradually Waned.

A general slackness, due to the holiday season, prevailed in the coal trade during the week. Practically all the mines were shut down on Christmas day and the majority closed for the first half of the week.

The last week in December closed a year which brought to the coal man every trouble pertaining to the industry. During January, 1923, the difficulty was a car shortage, the result of a rush of industries restocking in order to make up for the coal which they lost during the strike of 1922. Added to this trouble were the embargoes which were prevalent on all roads carrying coal to New England, especially that of the New Haven, which practically threw non-union B. & O. shippers out of the market. Shortly after the embargoes were lifted buying fell off to a great extent and the slack condition has remained most prevalent until this time.

Continuing through the year from January to March coal was in fair demand, but the problem remained of devising means by which it could be shipped through the prevailing embargoes. Domestic coal being the only grade not embargoed, much of it was shopped.

April, the contract month during normal times, came and went with almost no talk of contracts with the result that little coal is going out in regular shipments.

During April and May the spot market was quiet and prices started on the decline, which was in evidence during the balance of the year.

June and July were fair months in so far as orders are concerned, due probably to buyers noting the steady slipping of prices and deciding to buy at the the then low prices. August proved the best month of the year. With prospects of an anthracite strike and the ultimate demand for bituminous as a substitute, with a natural jump in prices, buying was stimulated.

However, this condition, as the anthracite strike, was short-lived and September, October and November were the worst months of the year. December brought a few more orders to close the year, but prices showed no tendency to rise.

Slump Started in April.

As stated above, prices started on the downward path during the month of April. In September they reached the cost of production and at present are far below that figure. Miners suffered no real hardships, but had not had so much money to spend as formerly. Men averaging three days per week of work were fortunate. Miners apparently took the condition sensibly, as there were no disturbances of any importance to further mar the year.

An average number of new mines were opened, principally in the non-union field, but it is a problem as to how they existed when old-established operations closed down or worked only part time. A number of these new operations were through the development stage and were waiting for a normal market, at which time they will begin to produce.

During the latter part of the year, after prices had declined to a point below the cost of production, wages were cut in the non-union fields in order to meet this new condition. Many operators paying the 1917 scale, and others even

below these figures. The non-union fields, as a result, received the bulk of the orders. Union operators were cut out of the running unless they wanted to keep on working in order to keep down overhead or keep their organization together.

Except during the first three months of the year, at no time was there a heavy demand for coal for domestic use. Apparently dealers would rather take their chances on receiving anthracite. In this connection, however, there is no doubt but what screened bituminous has come into favor with the large domestic users, such as apartmnt houses and office buildings. Low prices, and knowledge of the qualities of bituminous coals, have brought about this condition.

The following are about the average prices on Pool 10 for the year: They will serve to show the trend of all other grades: January, $4.50; February, $3.95; March, $3.25; April, $2.75; May, $2.25; June, $2.10; July, $2.00; August, $2.00; September, $1.95; October, November and December, $1.85.

MINE PRICES QUOTED IN COLUMBUS MARKET

		Jan.	Feb.	March	April
Smokeless	Lump	6.75-7.75	6.50-7.50	6.50-7.50	6.00-6.25
	M. R.	6.50-6.75	4.25-4.50	4.25-4.75	4.00-4.50
	Screenings.....	5.50-6.25	4.25-4.50	4.00-4.50	3.75-4.25
Kanawha	Lump	6.00-6.50	4.00-4.65	3.75-4.75	3.50-4.00
	M. R.	3.50-4.00	2.50-2.75	2.50-2.75	2.00-2.50
	Screenings.....	3.25-3.50	2.25-2.50	2.00-2.15	2.15-2.50
Hocking	Lump	5.00-5.75	4.00-4.50	3.50-4.00	2.75-3.25
	M. R.	3.00-3.25	2.40-2.65	2.25-2.50	2.00-2.25
	Screenings.....	2.65-2.90	2.00-2.25	1.90-2.00	1.50-1.75

		May	June	July	Aug.
Smokeless	Lump	6.00-6.50	6.00-6.50	5.75-6.25	5.75-6.00
	M. R.	3.85-4.35	3.75-4.10	3.00-3.50	2.75-3.25
	Screenings.....	3.50-4.00	3.50-3.75	2.75-3.10	2.25-2.50
Kanawha	Lump	3.00-3.50	2.50-3.10	2.75-3.25	2.75-3.25
	M. R.	2.00-2.40	1.90-2.20	1.75-2.00	1.75-2.00
	Screenings.....	1.60-1.90	1.25-1.65	1.00-1.20	1.00-1.15
Hocking	Lump	2.60-3.00	2.50-3.00	2.50-3.00	2.50-3.00
	M. R.	1.85-2.10	1.75-2.10	1.75-2.00	1.75-2.00
	Screenings.....	1.50-1.75	1.15-1.30	1.20-1.30	1.00-1.20

		Sept.	Oct.	Nov.	Dec.
Smokeless	Lump	5.75-6.15	6.25-6.50	4.75-5.00	3.25-3.50
	M. R.	2.75-3.25	2.85-3.25	2.00-2.35	2.00-2.25
	Screenings.....	2.25-2.50	2.15-2.40	1.25-1.40	1.20-1.35
Kanawha	Lump	2.85-3.50	2.85-3.50	2.85-3.15	2.75-3.00
	M. R.	1.75-2.10	1.75-2.00	1.75-2.00	1.50-1.75
	Screenings.....	1.15-2.25	.90-1.00	.70- .85	.90-1.00
Hocking	Lump	3.00-3.25	2.85-3.25	2.85-3.00	2.85-3.00
	M. R.	1.85-2.00	1.75-2.00	1.75-2.00	1.75-2.00
	Screenings.....	1.15-1.30	.90-1.00	.80- .95	1.10-1.25

HAMPTON ROADS IN 1923

Another Successful Year Rounded Out and More Than Fifteen Million Tons Handled Over Piers—Exports Increase Over 1922.

The port of Hampton Roads, a coal distributing center to all parts of the world, rounded out another very successful year in the coal trade with the closing of business December 31st. The three coal carrying roads which operate coal piers at Hampton Roads are the Norfolk & Western and the Virginia at Norfolk, and the Chesapeake & Ohio at Newport News.

Tonnage of coal handled over the piers operated by these roads for the year totaled more than fifteen and a half million tons. The Norfolk & Western R.R. piers led the other two piers again, having handled 5,811,742 tons over its piers at Lambert Point. The Virginian followed a close second in spite of the engineers' and firemen's strike, which reduced total dumpings by more than 400,000 tons. This road at Sewalls Point handled 5.048,790 tons for the year. The Chesapeake & Ohio at Newport News shows 4,671,111 tons handled over the piers. A complete list of dumpings and comparison between the years 1922 and 1923 are given below:

	1923			Total			
	N. & W.	Virginian	C. & O.	1923	1922	1921	1920
January ..	464,610	355,288	374,659	1,194,557	937,665	1,425,209	1,354,967
February .	450,354	374,907	321,768	1,147,029	1,099,378	1,026,913	1,281,998
March	550,623	551,243	421,496	1,523,362	1,497,141	962,914	1,742,221
April	500,145	519,906	369,927	1,389,978	1,409,430	1,253,446	1,905,326
May	464,154	540,629	390,994	1,395,777	1,542,043	1,830,624	1,792,514
June	392,966	458,038	324,140	1,175,144	1,756,479	2,210,826	1,963,603
July	538,478	470,769	445,630	1,454,877	1,330,364	1,628,318	2,127,745
August ...	574,811	432,700	515,229	1,522,740	1,297,973	1,119,389	2,092,557
September .	419,513	418,908	369,572	1,207,993	1,178,630	884,121	1,897,912
October ...	423,212	414,581	397,051	1,234,844	1,011,806	1,058,860	2,094,259
November .	469,549	240,034	331,988	1,041,571	820,883	985,167	1,717,817
December .	563,327	271,787	408,657	1,243,771	1,027,732	924,195	1,578,729
Totals...	5,811,742	5,048,790	4,671,111	15,531,643	14,909,525	15,310,022	21,644,328

During the year ended all three roads made large expenditures on improvements and additions at their coal terminals in anticipation of meeting any growth of demands made on them by the trade to meet the world's requirements for coal. Some of the permanent improvements have already been completed. These improvements will facilitate the handling of coal at Hampton Roads and when completed will increase the capacity of the piers to almost double the present dumping capacity.

Improvements Made.

The Norfolk & Western Ry. at Lamberts Point piers has nearly completed the electrification of its piers Nos. 2 and 3 which were formerly worked by steam engines. These piers have been equipped with 120-ton dumper which will work both piers and at the same time speed up the handling of coal over these two piers. Their pier No. 4 has two 120-ton dumpers which are electri-

cally operated. In addition to these improvements this road has made large improvements in the neighborhood of their Lamberts Point terminals and yards in order to facilitate the handling of coal and other freight over the line.

The Virginian Ry. has under construction a new pier at Sewalls Point, which will be electrically operated and when completed will be the largest single coal dumping pier in the world. This pier will be approximately 1,074 feet in length, 86 feet wide and 74½ feet above mean low water, the approximate cost being $3,250,000, with a dumping capacity of about 3,600 tons per hour. This road is also making extensive improvements on the western end of its line by electrification of 133 miles between Mullens, W. Va., and Roanoke.

The Chesapeake & Ohio is pushing to early completion enlargement of coal delivery plant and construction of additional coal handling facilities at the terminals at Newport News.

Low Prices Prevail.

The coal business for the year just closed was greater by more than half million tons than that of 1922. The bituminous coal market at Hampton Roads was ruled at lower prices through most of the year, and the last few days of the year emerged from a long period of abnormally low prices. This period was started early in October, after it was definitely known that the threatened coal strike had been averted. In the early part of July the season of depression was opened, due largely to the fact that consumers in New England, New York and elsewhere in the domestic field stocked up in anticipation of the strike.

When the strike did not develop they had vast stocks to consume before they felt the necessity of going into the market for fresh supply. On top of the overstocking came the warmest winter season experienced in years. Consequently there was very few calls for domestic fuel consumption except in the most northerly and westerly sections. Therefore, it might be said that the principal factors entering into the coal situation at Hampton Roads during the year were, the overstocking on coal by domestic consumers, the re-entry of British coal interests following settlement of labor difficulties into overseas business and the unusually high fall temperatures.

On the closing day of the year the Norfolk & Western Ry. at Lamberts Point piers broke all records for a single day's dumpings. In the 24 hours this pier dumped 899 cars or 61,509 tons, breaking the world record held by this road on its dumpings in one day, in May, 1920, when the total for 24 hours amounted to 52,063 tons.

Norfolk and Newport News separately in 1923 exported more coal than both ports combined did in the year 1922. According to figures compiled with the close of business the exports for the two ports together show 2,418,367 tons as compared with 1,004,028 tons exported in 1922.

The total coal production of the Canadian Kootenay for 1923 amounted to 831,377 gross tons, as compared with 645,362 tons in 1922. The output of coke during the year was 63,346 tons, against 46,000 tons in 1922. The 1922 values ($10 per ton for coke, and $6.25 for coal at the pit head) were repeated in 1923.

HAMPTON ROADS PRICES, 1923

	January		February	
	Net Mines	Gross Piers	Net Mines	Gross Piers
Pool 1.....	$5.39-$5.56	$8.55-$8.80	$3.69-$3.91	$6.65-$6.90
2.....	5.29- 5.43	8.40- 8.60	3.56- 3.74	6.50- 6.70
5.....	3.78- 4.00	6.85- 7.10	2.92- 3.11	5.90- 6.10
6.....	3.47- 3.65	6.50- 6.70	2.84- 3.02	5.80- 6.00
7.....	3.78- 4.00	6.85- 7.10	2.92- 3.11	5.90- 6.10

	March		April	
	Net Mines	Gross Piers	Net Mines	Gross Piers
Pool 1.....	$3.78-$4.05	$6.75-$7.05	$3.38-$3.51	$6.30-$6.45
2.....	3.65- 4.00	6.60- 7.00	3.11- 3.29	6.00- 6.20
5.....	2.84- 3.11	5.80- 6.05	2.22- 2.44	5.10- 5.35
6.....	2.71- 2.84	5.65- 5.80	2.08- 2.26	4.95- 5.15
7.....	2.84- 3.11	5.80- 6.05	2.22- 2.44	5.10- 5.35

	May		June	
	Net Mines	Gross Piers	Net Mines	Gross Piers
Pool 1.....	$3.81-$4.09	$6.80-$7.10	$3.02-$3.20	$5.90-$6.10
2.....	3.56- 3.74	6.50- 6.70	2.80- 2.98	5.65- 5.85
5.....	2.22- 2.31	5.10- 5.20	1.86- 1.99	4.70- 4.85
6.....	2.08- 2.17	4.95- 5.05	1.82- 1.86	4.65- 4.70
7.....	2.22- 2.31	5.10- 5.20	1.86- 1.99	4.70- 4.85

	July		August	
	Net Mines	Gross Piers	Net Mines	Gross Piers
Pool 1.....	$2.62-$2.80	$5.45-$5.65	$2.26-$2.40	$5.05-$5.20
2.....	2.40- 2.57	5.20- 5.40	2.04- 2.17	4.80- 4.95
5.....	1.59- 1.73	4.40- 4.55	1.64- 1.82	4.45- 4.65
6.....	1.55- 1.64	4.35- 4.45	1.59- 1.77	4.40- 4.60
7.....	1.59- 1.73	4.40- 4.55	1.64- 1.82	4.45- 4.65

	September		October	
	Net Mines	Gross Piers	Net Mines	Gross Piers
Pool 1.....	$2.17-$2.35	$4.95-$5.15	$1.77-$1.95	$4.50-$4.70
2.....	1.91- 2.04	4.65- 4.80	1.29- 1.46	3.95- 4.15
5.....	1.55- 1.73	4.35- 4.55	1.19- 1.36	3.95- 4.15
6.....	1.55- 1.73	4.35- 4.55	1.14- 1.23	3.95- 4.15
7.....	1.55- 1.73	4.35- 4.55	1.19- 1.36	3.95- 4.15

	November		December	
	Net Mines	Gross Piers	Net Mines	Gross Piers
Pool 1.....	$1.73-$1.95	$4.45-$4.70	$1.64-$1.90	$4.35-$4.65
2.....	1.46- 1.59	4.15- 4.30	1.46- 1.59	4.15- 4.30
5.....	1.14- 1.32	3.90- 4.10	1.23- 1.37	4.00- 4.15
6.....	1.10- 1.29	3.85- 4.05	1.23- 1.37	4.00- 4.15
7.....	1.14- 1.32	3.90- 4.10	1.23- 1.37	4.00- 4.15

Hampton Roads Exports.

Exports of coal and coke, also bunker tonnage supplied at the Hampton Roads ports during 1922 and 1923 were:

	Exports							
	Anthracite		Bituminous		Coke		Foreign Bunker	
Month	1922	1923	1922	1923	1922	1923	1922	1923
Jan.	....	....	69,406	59,158	165	227	132,388	92,741
Feb.	....	....	103,489	49,838	....	....	121,180	80,282
Mar.	....	....	140,609	187,374	....	....	134,186	98,202
Apr.	....	2,678	212,527	189,594	....	....	143,741	104,110
May	....	....	123,711	336,478	....	....	123,524	116,569
June	....	....	88,806	192,438	....	....	106,507	91,514
July	....	4,274	48,058	433,956	....	270	88,411	115,883
Aug.	....	....	45,047	267,685	....	11,255	71,178	106,046
Sept.	....	4	48,836	142,619	1,864	....	48,093	76,466
Oct.	....	....	47,376	170,800	....	....	61,093	94,729
Nov.	....	....	26,212	118,758	....	....	75,146	89,654
Dec.	....	....	49,951	181,876	....	....	76,565	112,477
Total...	....	6,956	841,039	2,334,574	2,029	11,752	1,192,012	1,178,673

MINE PRICES QUOTED IN THE BALTIMORE MARKET 1923

	Jan.	Feb.	March	April
Pool 1	6.00-6.25	.....	.....	.....
9	5.50-6.00	3.50-3.75	3.50	3.25
10	5.00-5.40	3.25	3.25	2.90
11	4.00-4.40	2.60-2.75	2.35	2.25
54	3.75-4.00	2.45	2.40	2.25
64	3.75-4.00	2.45	2.40	2.25

	May	June	July	Aug.
Pool 1	.....	.....	.....	.....
9	2.65-2.85	2.80	2.40-2.60	2.50
10	2.25	2.45	2.15-2.25	2.25
11	2.00	2.25	2.00-2.10	1.90
54	1.80	1.75	1.75	1.85
64	1.80	1.75	1.75	1.85

	Sept.	Oct.	Nov.	Dec.
Pool 1	.....	.....	.....	.....
9	2.40-2.50	2.25	2.00-2.15	2.25
10	2.25-2.30	2.15	1.85-2.00	1.90-2.20
11	2.00	1.80	1.70-1.85	1.75-1.90
54	1.75	1.75	1.70	1.70-1.85
64	1.75	1.75	1.70	1.70-1.85

On June 7, 1923, the heaviest train ever operated on the Norfolk & Western Ry. was run from Vivian to Williamson, West Virginia. It was made up of 96 gondola cars, loaded with coal, with a total gross weight of 11,520 tons.

THE 1923 RESULTS AT BUFFALO

Bituminous Suffered from Price Deflation and Keen Competition—Anthracite Shipments below Average of Recent Seasons.

The year has had its ups and downs, mostly downs, as the bituminous shipper finds it. This market is mainly concerned with the jobbing business. It has three or four large operations in the bituminous districts, but the coal from them is mostly sold in other markets. There had been no material change in these operations during 1923. To open a new mine now would be looked on as suicidal, and all the members of the trade who were interested in minor operations closed up partly or entirely.

The year began with the bituminous market still feeling the effects of the bulge of the fall before, but that did not last long. Prices went down on the run. When one reflects that coal which sold for $5 at the mines in January (as Pittsburgh lump did) sold for $2 in December, it may be enough to know about it. All the rest can be imagined. Of course it may be said truthfully that the vanished $3 was not exactly lost, for the consumer must have absorbed it in some way, but it spelled disaster to the trade.

And so the bituminous shipper—producer and jobber went into 1924 with a business that within a year paid good money, but which was being carried on at an absolute loss so far as the operator is concerned, and pretty nearly the same by the jobber. The operator can hang on a while with no profits, but most jobbers cannot, so they are obliged to exact something out of their sales or go under. The main difficulty is that the volume of sales shrunk with most of the members of the trade. Where did it go to? The consumer was running his plant about as usual, and he was happy so far as the fuel supply went, for he could buy it at about his own price.

From all consumers came the report that they were carrying about all the coal they could store, and yet the amount offered them was still very great. With such conditions they did not feel that they need to be troubled. Let the shippers worry. They once sold coal at big prices and they will probably do so again. The trade will take care of itself. Still, it is to be supposed that they, too, would like to see prices a little more stable, so that they might figure actual cost when they came to calculate on a prospective order to make up goods for the open market.

Our shippers went into other big bituminous markets, New York, Philadelphia, Pittsburgh, Cleveland, for comfort or encouragement, but they did not find any. Often the report brought back was that the market there was worse than ours, but that may have been a matter of taking left-handed comfort to themselves. The worst of it was that with a claimed idleness of anywhere up to half of mines, the surplus was as great as ever. The little flurry in slack, which took place from a shortage consequent on the shutting off of the lake trade, lasted only about a fortnight and really had no meaning outside of that. The lake trade wanted three-quarter coal and to get it a large amount of slack had to be made.

Independent Anthracite at High Levels.

In the anthracite trade the situation had been widely different from anything

in bituminous. The complaint of exorbitant prices was heard everywhere, and independent mines were able till quite lately to sell their output all the way up to $4 premium over the coal produced by the line companies.

Independent Premiums Cut Down.

December warm weather had cut down the independent premiums. One new feature of the trade was that the Canadian consumer of anthracite was quite tranquil. Spite of the failure of the move to substitute Alberta coal, the demand for anthracite had been less insistent than here. No doubt more soft coal than formerly was being used there for domestic fuel.

The amount of anthracite shipped by lake during the season was about 1,000,000 tons short of the recent average, being 2,907,320 net tons, distributed as follows: 1,074,400 tons to Duluth and Superior, 814,100 tons to Milwaukee, 649,900 tons to Chicago, 89,520 tons to Sheboygan, 68,000 tons to Green Bay, 56,000 tons to Fort William (Can.), 29,500 tons to Manitowoc, 16,900 tons to Port Arthur (Can.), 16,900 tons to Marquette, 12,800 tons to Ashland, 10,500 tons to Escanaba, 8,900 tons to Houghton, 8,600 tons to Hancock, 8,000 tons to Waukegan, 7,500 tons to Racine, 6,000 tons to Sault (Can.), 5,000 tons to Menominee, 5,000 tons to Two Rivers, 4,400 tons to Sault (Mich.), 2,200 tons to Kenosha, and 1,000 tons to Depere.

The steady inquiry for some sort of acceptable substitute for anthracite continued as before, but nothing came of it. A few put coke into their cellars and liked it, but the saving was probably too small to make it attractive. Mixing it liberally with anthracite was good. Buffalo was using a large amount of natural and by-product gas. It lately connected the pipes in cellars that were using two sorts of gas and the resultant seems to work well. Fuel gas had gone up from 30 to 60 cents and illuminating gas was thus cut down from $1.00 or so.

It was not easy to say much of the personal feature of the coal trade for the year. Beyond the fact that a few of the small concerns went into business too late to get well established before the trade collapsed had to suspend, there was practically no change. Much speculation had been indulged in as to how long this or that concern could stand the situation, but the older ones are all here yet. Plainly, they have not seen the last of their good profits from the trade of a year ago.

Buffalo Bituminous Prices 1923.

The bulge that took place in the last half of 1922, on account of the five-months' strike, beginning with April, began to sag off soon after August, but bituminous prices were still high at the end of the year. The decline had set in very plainly and it continued steadily, without any recovery, till the bottom appeared to have been reached in April, 1923. For awhile the prices held without material change and then, in October a further decline, especially in the steam grades, took place. This seems to have been partly on account of the over-production of bituminous and partly because the steam sizes of anthracite were in over-supply and competed sharply with bituminous.

For the greater part of 1923 shippers, both operators and jobbers, have claimed that they were making no money in bituminous and there were fears expressed

that if prices did not advance materially soon many concerns would be driven out of business.

Month	Youghiogheny Lump	Pittsburgh and No. 8 Lump	Mine Run	Slack
January	$4.75	$4.25	$3.75	$3.25
February	4.50	4.00	3.25	3.00
March	3.75	3.00	2.25	2.00
April	3.25	2.25	2.10	1.75
May	3.25	2.25	2.10	1.65
June	2.75	2.25	2.10	1.50
July	2.75	2.25	2.10	1.50
August	2.75	2.25	2.10	1.50
September	2.75	2.25	2.10	1.50
October	2.75	2.00	2.00	1.10
November	2.75	2.00	1.75	1.10
December	2.75	2.00	1.75	1.10

Baltimore Coal Exports by Months.

The following tabulation shows bituminous export shipments by months during 1922 and 1923:

Month	Anthracite		Bituminous		Coke		Bunkers	
	1922	1923	1922	1923	1922	1923	1922	1923
January	....	....	11,030	511	1,042	....	15,009	13,688
February	....	....	19,141	6,346	5,299	548	20,015	9,990
March	10,995	....	19,339	63,389	....	1,819	17,680	18,676
April	....	....	14,141	234,122	7,534	56,467	22,971	31,465
May	....	....	....	271,113	....	69,875	10,871	47,385
June	....	....	10,995	340,361	....	6,050	9,298	44,991
July	....	2	....	195,296	....	....	6,721	37,599
August	....	....	....	128,033	....	10,117	8,672	20,728
September	....	1,209	....	59,433	....	11,587	5,291	20,570
October	....	1,024	4,866	47,744	....	5,375	8,782	14,884
November	....	7,067	2,054	66,759	....	4,050	9,179	9,601
December	....	....	11,060	6,248	....	4,203	8.484	15,672
Total	10,995	9,302	92,626	1,379,355	14,235	170,091	154,973	285,249

Gas Industry Expanding Rapidly.

The gas industry is now adding new customers at the rate of 350,000 a year. That is as many persons as live in Kansas City, Seattle or Minneapolis. Approximately 48,000,000 persons in the United States now use gas for lighting, heating and cooking.

About 25 per cent of the total amount of manufactured gas sold is now used by industrial plants in more than 1,200 different ways. Gas is now used in 7,000,000 cooking appliances, 1,600,000 water heaters, 1,300,000 space heaters and 3,800,000 incandescent burners.

The gas industry uses more than 1,000,000 tons of coal and about 900,000,000 gallons of oil a year.

Cleveland Receipts and Shipments.

Receipts and shipments of coal and coke at Cleveland, Ohio, during 1922 and 1923 were:

	Rail Receipts						Lake Shipments Bituminous	
	Anthracite		Bituminous		Coke			
Month	1922	1923	1922	1923	1922	1923	1922	1923
January	46,166	6,746	419,047	911,363	12,134	25,964	.....	.....
February ...	129,385	7,348	455,760	535,548	43,447	18,323	.....	.....
March	166,959	6,326	452,653	790,262	8,826	21,527	.....	.....
April	81,749	7,672	231,756	632,642	15,365	23,843	63,805	207,029
May	47,788	10,298	341,108	657,739	7,488	20,772	.....	315,576
June	10,111	33,369	358,184	609,034	8,702	16,835	.....	272,666
July	8,592	45,409	234,486	629,166	3,860	12,724	8,479	233,782
August	....	11,386	372,451	742,482	10,688	21,779	45,346	248,604
September ..	1,366	4,269	752,427	248,615	8,820	20,534	.....	42,116
October	36,112	53,140	410,307	943,187	22,037	12,113	410,369	190,265
November ..	888	44,287	634,882	482,269	13,692	4,999	270,991	113,184
December ..	4,925	20,049	762,646	625,881	56,281	6,497	26,914	2,041

In 1923, 20,249 tons of bituminous were received by lake.

Rail Shipments.

	Anthracite		Bituminous		Coke	
Month	1922	1923	1922	1923	1922	1923
January	5,037	...	28,695	979	3,246	5,408
February	15,390	...	...	1,517	10,432	16,734
March	4,542	...	16,085	682	16,085	10,720
April	18,190	...	574	436	22,440	11,160
May	72,185	...	685	624	24,337	16,521
June	150	...	...	853	27,937	12,551
July	132	...	...	1,239	28,440	9,681
August	...	...	337	1,590	2,256	3,252
September	...	...	841	1,147	6,033	4,089
October	60	...	...	1,412	3,007	3,188
November	...	672	103	240,316	3,403	22,787
December	...	178	370	3,426	2,653	28,594

Mine Prices Quoted in Cleveland Market.

	Jan.	Feb.	March	April
Pitts., No. 8 Lump.....	4.50-5.50	4.00-4.50	3.45-4.00	2.25-3.75
M. R.....	3.35-3.50	3.15-3.25	2.65-2.75	2.15-2.35
Screenings....	3.10-3.25	3.05-3.20	2.40-2.60	1.85-2.05
	May	June	July	Aug.
Pitts., No. 8 Lump.....	2.35-3.50	2.25-3.25	2.05-3.00	2.20-2.30
M. R.....	2.10-2.25	1.85-2.00	1.90-2.10	2.00-2.10
Screenings....	1.50-1.75	1.15-1.30	1.25-1.35	1.10-1.30
	Sept.	Oct.	Nov.	Dec.
Pitts., No. 8 Lump.....	2.25-3.00	2.15-3.00	2.10-3.00	1.90-3.00
M. R.....	2.00-2.10	1.85-1.95	1.85-1.95	1.90-2.00
Screenings....	1.20-1.30	.95-1.15	1.10-1.20	1.60

WEST VIRGINIA

West Virginia is the second largest coal producer in the Union, being well entrenched in this prominent position as the result of a dozen years' steady progress after it first surpassed Illinois, long its rival for second place. The trade of West Virginia is interesting, not only because of its extent, but because of the variety of coal found within its borders.

In the northern part of the State there is the Wheeling district where a localized industry is carried on, and near to the eastern boundary the Upper Potomac field, rather closely identified with the coal interests of Maryland. The important district in Northern West Virginia is the Fairmont, which is not only one of the largest producers in the State but one of the oldest. The larger part of the tonnage is produced in southern West Virginia, as there are two important districts there, the New River and the Pocahontas, and tributary to these are minor districts: the Kanawha, adjacent to the New River field, and the Tug River, Thacker and Kenova are more or less adjacent to the Pocahontas field and likewise served by the Norfolk & Western Ry. The Kanawha district is an old-established seat of the mining industry, dating back to the time when the only outlet was by water, and, as our records show, a certain amount is still forwarded by boat. But the New River field dates from the opening of the Chesapeake & Ohio Ry., as the fields further south date from the opening of the N. & W.

Naturally, the early records of coal mining in West Virginia are merged with those for the State of Virginia, so that the records for the new State commence with the important tonnage of 444,648 tons for the year 1863. Considering the vicissitudes of mining in other States remarkably successful progress was made in West Virginia. The 1,000,000-ton mark was reached in 1873; the 2,000,000-ton mark in 1882, and with rapid strides the output increased beyond that point, gaining nearly a million tons a year and going far beyond 10,000,000 tons in 1893. From this point it took but seven years to reach the 20,000,000 ton mark; only five years more to get up to 32,000,000 tons, and from then on every year has shown great progress.

The development of the State as a coal producer has been due largely to the interest taken in the industry by the railroad companies serving the section. It was frequently asserted in prior years that the coal areas were opened in advance of requirements in order to afford tonnage for the railroads, and certainly they secured it, even though the mining interests of Pennsylvania and Ohio had to face very strong opposition because of that fact. And not only was capital forthcoming in ample volume because of railroad influence, but the most energetic sales organizations were established with a view to building up business with the least loss of time.

For years the Baltimore & Ohio was closely identified with important interests in the northern part of the State; the Chesapeake & Ohio with those of the New River field, and the Norfolk & Western with interests in the more

southerly part of the State. But it is now 20 years since in deference to public opinion and subsequent legislation the railroad interest has gradually been relaxed and in that time many entirely independent interests have been added to the number of companies not originally associated with the transportation interests.

In fact, the producing interests of West Virginia are notably diversified, there being very few companies of such predominating influence as are to be found in certain sections of the State of Pennsylvania and any other of very large coal producing States.

The tonnage produced has been as follows in recent years:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1912	66,786,687	1916	86,460,127	1920	89,450,707
1913	71,308,982	1917	86,441,667	1921	72,200,000
1914	71,107,626	1918	89,935,839	1922	80,488,192
1915	77,184,069	1919	79,036,553	1923	100,100,000

Over the past half century the records show:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1863	444,648	1883	2,335,833	1903	29,337,241
1868	609,227	1888	5,498,800	1908	41,897,843
1873	1,000,000	1893	10,708,578	1913	71,308,982
1878	1,120,000	1898	16,700,999	1918	89,935,839

Indiana.

The coal fields of Indiana have their upper limit in the western central part of the State, adjacent to the Danville district of Illinois, and extend in a broadening field down to the Ohio River, embracing all the southwestern counties of the State.

While the Indiana block coal field early established a good reputation on a certain limited tonnage it was not until recent times that the coal fields of Indiana had aught but a strictly local market.

An output of 9,632 tons was recorded in 1840, but not until 1860 did the tonnage reach 100,000 tons, and although it touched 1,000,000 tons in 1873 reactions followed, so that it did not reach the 2,000,000 ton mark until 1882. The output continued on a basis of about 3,000,000 tons a year for about 10 years, finally reaching the 4,000,000 ton mark in 1897, which may be considered approximately the commencement of modern development in Indiana, the next 10 years showing a growth of 13,985,713 tons.

The tonnage in the years named has been as below:

Year	Tons	Year	Tons	Year	Tons
1912	15,285,718	1916	20,093,528	1920	29,090,585
1913	17,165,671	1917	26,077,182	1921	20,319,509
1914	16,641,132	1918	30,678,634	1922	19,132,889
1915	17,006,152	1919	20,912,288	1923	27,000,000

Illinois.

The coal fields of Illinois cover a large portion of the State and the industry has an interesting history. The coal in the most northerly, or La Salle, district was the first referred to by any explorer traversing this country, Father Marquette, 1676.

The coal in the upper counties, in some areas well within 100 miles of Chicago, was in the early days, at least, very near the surface and, as is generally the case in such instances, of poor quality. Much of this having been mined out, recourse has been had to the seams in other fields.

As one traverses to the southward, passing through the Fulton, Springfield, Belleville, Murphysboro and Franklin districts down to the Harrisburg field, the coal is found at increasing depth, but the improvement in the quality of it is such as to well repay the greater investment and the greater expense of operation. Off to one side, adjacent to the Indiana boundary, is the Danville field.

The level surface of Illinois, as well as its central position on the map, led to a vast amount of railroad building in the State, affording at once a tremendous home market for coal and a great outlet to markets beyond the State lines.

The first recorded output was 6,000 tons in 1833. The business had grown to 150,000 tons in 1845, and reached the million mark in 1864. The influence of Western railroad development is plainly discernible from that time on, the output reaching the two million ton mark in 1868, the three million ton mark in 1871 and the five million ton mark in 1876. From the frequency with which round numbers appear it is evident no very definite record of output was kept prior to 1880. In 1883 the tonnage had reached 12,000,000 tons, and after that time various fluctuations occurred which retarded the growth so that the 20,000,000 mark was not reached until 1897. There have been ups and downs in the meantime, but the average yearly progress has been great, the output increasing to 51,000,000 tons in the next 10 years, and great progress has been made in the intervening time, as our tables show.

Production in following years was:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1915	58,829,576	1918	89,291,105	1921	69,602,762
1916	66,195,336	1919	60,862,608	1922	58,467,736
1917	86,199,387	1920	88,630,893	1923	84,000,000

Colorado.

Production of coal in Colorado during the past several years was:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1912	10,977,824	1916	10,484,237	1920	12,278,225
1913	9,232,510	1917	12,483,336	1921	9,122,760
1914	8,170,559	1918	12,407,571	1922	10,019,597
1915	8,624,980	1919	10,323,420	1923	10,300,000

Maryland.

The coal deposits of Maryland represent one of the oldest fields of exploitation. Although always, in modern days, a comparatively small factor considered from the tonnage standpoint, the high quality of the greater part of the Maryland coal and its proximity to important consuming centers have caused it to play an important part in the coal trade of the Atlantic seaboard.

The coal fields are in the western part of the State beyond Cumberland, the entire section being formerly known as Allegany County. Subsequently Garrett County was set off, embracing all the territory beyond the summit near Frostburg. The Georges Creek basin, the most important, lies about two-thirds in Allegany County and one-third in Garrett County. Further west is found the Castleman basin and at the extreme western part of the State are the Lower Youghiogheny basin and the Upper Youghiogheny basin. But the only important active coal operations are in the first named district.

There is record of coal mining in Maryland at the very outset of the 19th Century and as early as 1832 an output of 12,000 tons was recorded. While an increased output was shipped as soon as the Baltimore & Ohio Railroad reached Cumberland, which was in 1842, the real developments did not come until later on, in the year 1850, when the Chesapeake & Ohio Canal was built, as well as branch lines from Cumberland, which afforded quite extensive facilities to the coal operators of the Georges Creek field.

The output rose from 175,000 tons in 1849 to 812,000 tons in 1854, at which time Maryland was exceeded as a coal producer only by Pennsylvania and Ohio. Notwithstanding the great demand for coal during the Civil War, the fact that the Baltimore & Ohio Railroad was often cut by the Confederates kept down the output materially, but in 1865 it passed the million mark and even then Maryland ranked as the fourth State, being surpassed only by Pennsylvania, Ohio and Illinois.

An output of 2,216,000 tons was attained in 1869 and 3,198,000 in 1873. After that the region experienced marked vicissitude and not until 1887 was the latter figure surpassed. The 4,000,000 ton mark was exceeded in 1896, but by this time West Virginia and Alabama had been added to the list of large producers and the relative importance of Maryland was decreasing.

The output of 1901 exceeded five million tons, as did that of 1902, 1905, 1906, 1907 and 1910, but no time since then has so large an output been attained and Maryland is now surpassed as a coal producer by a dozen States and possibly one or two more. At a number of mines all of the Big Vein coal has been extracted and coal from the smaller or Tyson seam now constitutes a material part of the shipments.

The tonnage in the years named has been, in net tons:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1912	4,964,038	1916	4,460,046	1920	4,030,239
1913	4,779,839	1917	4,745,924	1921	1,827,740
1914	4,133,547	1918	4,497,297	1922	1,222,707
1915	4,180,477	1919	3,021,686	1923	2,700,000

Distribution of Maryland shipments originating chiefly on the Cumberland & Pennsylvania RR., the chief and once the only outlet from the Georges Creek mines, and the Georges Creek & Cumberland, now part of the Western Maryland, has been as follows:

Year.	B. & O. R. R.	C. & O. Canal.	Penn. R. R.	W. Md.	Total.
1915.....	1,791,402	174,320	163,157	898,280	3,027,159
1916.....	1,558,803	158,155	173,332	1,130,397	3,020,687
1917.....	1,457,186	151,258	173,696	1,485,224	3,267,364
1918.....	1,572,160	138,122	236,712	1,258,896	3,205,884
1919.....	878,673	133,571	120,448	902,713	2,035,405
1920.....	1,444,097	127,905	265,205	1,032,433	2,869,640
1921.....	822,878	66,540	91,708	386,421	1,367,047
1922.....	445,096	58	65,671	209,083	719,908
1923.....	702,742	56,405	179,501	435,827	1,374,475

The coal tonnage of Maryland, as reported by the C. & P. RR. Co., excludes output from certain mines sometimes included in the Upper Potomac basin of West Virginia. While these mines are located in Maryland, the coal is transported across the river into West Virginia and there loaded on cars for shipment. In addition there is also to be added to the above figures, in arriving at total output, coal used at mines and locally from small mines and country banks, amounting to over 400,000 tons; also the output of Garrett County mines shipped via the B. & O., which amounts to about 100,000 tons annually.

The first mining company was incorporated in 1836. After the construction of the Baltimore & Ohio RR., in 1842, and the Chesapeake & Ohio Canal, in 1850, the output from the Maryland mines increased rapidly. The attempt to ship coal from the mines to barges, prior to advent of the B. & O. R.R., was not long continued. The method was too destructive to life and was the cause of so much loss in coal that it was soon abandoned, and it was not until 1842 that the industry really began to assume importance.

Washington.

Washington has important coal fields which are conveniently located adjacent to the cities in the western part of the State and the tidewater facilities afforded by Puget Sound. Of the States on the Pacific Coast no other one compares with Washington as a coal-producer, and while it has had to compete with the great coal fields of British Columbia there has been a steady output maintained even if no material growth is to be recorded.

The industry dates back to 1860 when there was an output of 5,374 tons. Not until 1876 did the output exceed 100,000 tons, but in 1884 it had reached 1,215,750 and passed the 2,000,000 mark in 1899. Since then the output has generally been in excess of 3,000,000 tons, but it has never exceeded 4,056,000.

The tonnage of the State of Washington has been as follows:

Year	Tons	Year	Tons	Year	Tons
1912.....	3,346,946	1916.....	3,019,600	1920.....	3,753,093
1913.....	3,831,647	1917.....	4,002,759	1921.....	2,428,722
1914.....	3,040,361	1918.....	4,082,212	1922.....	2,581,165
1915.....	2,409,331	1919.....	2,990,447	1923	2,950,000

Alabama.

Alabama has a singular record of long-continued production on a modest basis, succeeded by a period of sudden and rapid growth. The coal fields are in the northern central portion of the State, where the population was very small in the early days. There was an output of 946 tons in 1840, but not until 1860 did the output exceed 10,000 tons, and a period of 16 years elapsed before the 100,000 ton mark was passed.

It was not until the early '80s that the coal industry of Alabama as we know it today became a feature. At that time the exploitation of the iron ores of the Birmingham district was commenced, and in the past 30 years, as is well known, a great industrial center has been developed in that territory. Beginning with an output of 2,492,000 tons in 1885, the figures mounted rapidly or with some set-backs through the three, four, five, six, seven, eight, nine and ten million ton marks, when it reached 10,354,570 tons in 1902. As our records show it has doubled in the intervening time, although, as is customary in the case of districts depending on the iron and steel business, there are marked ups and downs in the record.

Tonnage in years named has been as follows:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1912	16,513,040	1916	18,234,625	1920	16,140,099
1913	17,907,284	1917	20,068,074	1921	12,568,899
1914	15,520,943	1918	19,184,962	1922	18,324,740
1915	14,027,937	1919	15,536,721	1923	18,200,000

Kentucky.

Kentucky is an interesting State from a coal trade standpoint. Its coal fields belong in two separate and distinct basins, the western field being the interior coal basin while the eastern field is in a portion of the Appalachians. Early developments were in the western part of the State, an output of 328 tons being recorded in 1828. As early as 1845 the output had reached 100,000 tons, reached 200,000 in 1855, but not until 1873 was the 400,000-ton mark reached, the fluctuations being quite marked in the intervening time.

The output got up to 1,000,000 tons in 1879 and continued quite steadily on the basis of 2,000,000 or 3,000,000 tons per annum until the opening of the large mines in the eastern part of the State in the late '90s. As the new century came in the Kentucky production had reached 5,469,000, and thereafter increased nearly 1,000,000 tons per year until the recent past when even more rapid progress has been made. The coal of the eastern part of the State is particularly high in quality and finds a wide market throughout the West and Northwest.

The tonnage in recent years has been as follows:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1912	16,323,904	1916	25,393,997	1920	35,528,762
1913	19,421,288	1917	27,807,971	1921	31,588,270
1914	20,168,150	1918	31,612,617	1922	42,134,175
1915	21,361,674	1919	30,036,061	1923	41,000,000

Ohio

With its coal fields located in the eastern part of the State, adjacent to the great and long-established industrial district centering about Pittsburgh and with many old-established railroad lines traversing the State, Ohio early became an important coal-producing section, having a substantial tonnage record as far back as 1838 and continuing to be a greater coal producer than Illinois up to 1870, when the difference in favor of the more westerly State was but nominal. During the '70s there were various back and forth movements. Labor difficulties and other local causes resulted in fluctuation of output in one State and another, but in 1883 Ohio had to yield the palm to Illinois, and about 15 years later was surpassed by West Virginia also.

Ohio contains the celebrated Hocking field which for many years furnished a high grade domestic coal widely known throughout the West. This has in more recent years been displaced by the smokeless coals of West Virginia and the development of the natural gas fields some 25 or 30 years ago has also been a factor operating against the coal industry of Ohio. The operators of this State have also had to contend with unfair freight rates in years gone by, but nevertheless the tonnage has doubled in the last 20 years, and of the shipments from Lake Erie ports, which constitute so important a factor in the trade, a considerable percentage represents coal from this State.

The tonnage of this State in the years named has been as follows:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1912	34,444,291	1916	34,526,552	1920	45,032,653
1913	36,285,468	1917	41,677,986	1921	31,942,776
1914	18,182,940	1918	47,849,236	1922	26,953,791
1915	22,627,046	1919	35,876,682	1923	40,000,000

New Mexico.

The principal coal fields of New Mexico are in the northwestern part of the State adjacent to the Atchison, Topeka & Santa Fe Ry. The mining industry of that State is directly associated with the growth of railroad requirements, and commencing with a tonnage of 21,000 in 1881 it rapidly advanced to a basis of 500,000 to 600,000 tons per annum, reaching the million mark in 1899 and 2,628,000 in 1907 and continuing well above 3,000,000 tons every year since 1909.

As in other sections of the Southwest the use of coal is much restricted by reason of the large supply of fuel oil that is available.

The tonnage in the years named has been as below:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1912	3,536,824	1916	3,793,011	1920	3,683,440
1913	3,708,806	1917	4,000,527	1921	2,453,482
1914	3,877,689	1918	4,023,239	1922	3,147,173
1915	3,817,940	1919	3,138,756	1923	2,700,000

Arkansas.

The coal fields of Arkansas are in the central western part of the State, extending eastward from the old town of Fort Smith. Arkansas has long been known as a producer of coal, some output having been mentioned as far back as 1840, and specified in the official returns again in 1860. But not until 1880 was there a continuous record of coal output available, for Arkansas in the '60s and '70s, to go no further back, was a wild place and little thought was given to statistics.

Commencing with an output of 25,000 to 50,000 tons per annum in the early '80s, the production amounted to half a million tons with the commencement of the next decade, and with the development of the Southwestern railroads it advanced to a matter of 1,205,000 tons in 1898, and passed the two million mark in 1903.

Since then there has been little or no growth, as the development of oil in the Southwest has militated against increased steam trade, and the fact that Arkansas is largely a wooded country, with a comparatively mild climate, restricts the production of coal for domestic purposes, particularly as coal of better quality can be had from Oklahoma.

The tonnage in recent calendar years has been as below:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1912	2,100,819	1916	1,994,915	1920	2,050,596
1913	2,234,107	1917	2,143,579	1921	1,227,777
1914	1,836,540	1918	2,227,369	1922	1,110,046
1915	1,652,106	1919	1,429,020	1923	1,400,000

Iowa.

The coal fields of Iowa are particularly restricted to supplying the home market. More so than in any other State is the coal utilized for local purposes. The principal producing fields center about Des Moines and extend north and south in the central portion of the State, so that there is not so much opportunity to make shipments beyond the limits of the state of origin as the coal cannot compete in distant markets when necessary freight charges have been paid. Being readily accessible for home use, many mines selling their product by wagon delivery in neighboring cities and towns, the coal industry of Iowa became established at a very early date, a small output being recorded as far back as 1840, and at the close of the Civil War the output had grown to 69,574 tons, which was much more than Virginia produced in that year. In 1878 the output had grown to 1,250,000 tons, and for many years subsequent to 1883 the output remained steady at between 4,000,000 to 5,000,000 tons.

The tonnage in years named has been as below:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1912	7,289,529	1916	7,260,800	1920	7,774,916
1913	7,525,936	1917	8,965,830	1921	4,531,392
1914	7,451,022	1918	8,192,195	1922	4,335,161
1915	7,614,143	1919	5,624,692	1923	6,500,000

Missouri.

The principal coal field of Missouri is situated in the northern central portion of the State, centering about Columbia and Huntsville. The State is one of the oldest of coal producers, records extending back to 1840, when there was an output of 9,972 tons reported. Even as far back as 1850 there was an estimated output of 100,000 tons.

The first railroad in the Far West, as it was then called, the Hannibal & St. Joseph, crossed the Missouri coal fields and furnished, at once, a market and an outlet for them. Tonnage increased to 500,000 tons in 1867 and 1,000,000 in 1876. The two million ton mark was passed in 1882 and the three million mark only three years later.

From then on there was a fluctuating tendency and the four million mark was not attained until 1903. Only recently has the output surpassed five million tons.

The coal of Missouri is not of particularly high quality and is not dealt in to any material extent in markets outside of the State. Even local markets are not secure in view of the competition that is encountered when trade is dull and producers in other fields have to seek an outlet.

Coal tonnage produced in Missouri during a series of years has been:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1915	3,811,593	1918	1,464,818	1921	3,551,621
1916	4,742,146	1919	3,979,798	1922	2,924,750
1917	5,670,549	1920	5,266,565	1923	3,800,000

Texas.

Texas is one of the few States in which the production of lignite constitutes an important feature. Lignite is a low grade of bituminous. It constitutes something more than two-thirds of the tonnage of bituminous produced in that State, and while representing a fuel in which the process of carbonization has made less progress than in the case of fuels of higher grade, it serves a useful purpose in that State of magnificent distances, and generally mild climate where a high grade domestic fuel is not especially required.

The coal industry in Texas is of modern development, the first official returns dating from 1884, when a tonnage of 125,000 was reported. There was not as much as a million tons produced in any year up to 1901, and the output has never exceeded 2,500,000 tons, as indicated by the figures below. The bituminous mines are chiefly in the northern central part of the State while the lignite mines are in the eastern part of the State.

The tonnage in the years named has been as below:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1915	2,088,908	1918	2,261,135	1921	972,839
1916	1,987,503	1919	1,680,656	1922	1,106,007
1917	2,355,815	1920	1,615,015	1923	1,100,000

Virginia.

Virginia has an interesting history as a coal-producing field, the Richmond basin having been the earliest source of coal supply on the seaboard. As early as 1822 the State turned out 54,000 tons and then exceeded in importance the coal industry of Pennsylvania. In 1828 the tonnage stood at 100,000. In 1838 it was 300,000, the high-water mark being achieved in 1840, when the figure of 424,894 was recorded. Later the adjacent Farmville coal areas were exploited, coal therefrom being hauled by rail to a point on the James River.

With this tonnage taking the place of the decreasing supplies of the Richmond basin an output of 473,350 tons was achieved in 1860. From 1862 forward for 20 years the coal business in this State was on a very modest basis, but at that time the celebrated Pocahontas fields in the western part of the State were opened and the output mounted rapidly to 1,073,000 tons in 1888. There was a period of recession subsequently, but by 1894 the tonnage reached new high levels and attained the figure of 2,105,791 tons in 1899.

While only a small portion of the Pocahontas field is in Virginia, the development of the Clinch Valley district and other fields in the southwestern part of Virginia has served to greatly augment the tonnage from the State.

The tonnage of this State has been as below in years named:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1912	7,846,638	1916	9,707,474	1920	11,244,106
1913	8,828,068	1917	10,087,091	1921	7,492,378
1914	7,959,535	1918	10,289,808	1922	10,491,174
1915	8,122,596	1919	9,326,830	1923	11,000,000

Utah.

The coal fields of Utah are large and, while scattered, are for most part within easy access of Salt Lake City and larger towns in the northern part of the State. With the development of transportation facilities in the Rocky Mountain section and the general building up of that part of the country Utah has developed as a coal producer. The coal trade of the State is of comparatively modern origin, amounting to no more than 50,000 tons in 1876 and standing at 200,000 tons in 1886. It doubled in the next ten years, and since 1900 has increased very substantially from the 1,147,000 tons then recorded, as shown by the details that we give below.

The tonnage in the years named has been:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1915	3,108,715	1918	5,136,825	1921	4,078,784
1916	3,567,428	1919	4,631,323	1922	4,992,008
1917	4,125,230	1920	6,005,199	1923	4,600,000

The record production of coal on the Norfolk & Western Ry. was reached during 1923, when 30,415,205 net tons of coal were mined. The next highest production of coal was in 1922, when 30,012,942 net tons were mined.

Oklahoma.

The coal fields of Oklahoma are in the eastern part of the State, running down through the more southerly portion, south of the Canadian River. Coal mining in this State was carried on in but a limited way, while it was reserved as the Indian Territory, and while tonnage was mined for local use many years ago, it was not until 1880 that a definite record was obtainable as to the amount, the output for that year being recorded as 120,947 tons.

It grew quite steadily year by year without any material variation from that time on, passing the million mark in the first year of Statehood, and, aside from labor difficulties in 1894, showing a continuous though less rapid growth from that time on, surpassing two million tons for the first time in 1901, leaping forward to 3,500,000 tons in 1903, but afterwards slipping back and not materially surpassing that figure until ten years later.

Since then the coal mining industry in Oklahoma has been practically stationary, the availability of fuel oil of course greatly restricting coal trade activities throughout the Southwest. The mines of Oklahoma, unfortunately, generate large quantities of gas, and the dust is highly explosive.

On the whole, the coal fields of that State, Arkansas and Texas are among the least attractive from an operating standpoint, and will doubtless be at a disadvantage as long as the oil wells of the Southwest continue as heavy producers:

The tonnage of coal mined in Oklahoma in recent years has been as follows:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1915	3,693,580	1918	4,813,447	1921	3,362,623
1916	3,608,011	1919	3,802,113	1922	2,802,511
1917	4,386,844	1920	4,830,288	1923	3,550,000

California.

California has practically ceased to be a factor in the commercial production of coal, for, while mining has been carried on since 1861 when a tonnage of 6,620 tons was reported, and the output was frequently above 100,000 tons during the '60s and '70s (in fact nearly a quarter of a million tons in 1880), it has declined to almost nothing in recent years, the downward tendency having been only temporarily checked when one concern or another undertook to develop the mineral deposits of the State.

While the coal resources are rather extensive, the coal is lignitic in character and cannot be sold to advantage in competition with fuel from British Columbia and from other States of the Union or from the oil so largely used on the coast. The deposits are located not far from San Francisco.

For the year 1923, the coal tonnage on the Monongahela river was 18,344,470 and 370,339 tons of coke.

Wyoming.

Wyoming contains one of the greatest coal reserves to be found in the United States. The deposits are divided into two large areas and several small ones embracing, in the aggregate, nearly half the area of the State.

The development commenced at the time the Union Pacific Railroad was constructed and the principal mines are in the southern part of the State adjacent to the line of the road. More recently mines tributary to the Burlington system have been opened in the northeastern part of the State.

In 1870 the tonnage was estimated at 50,000 tons, and in 1880 it had grown to 589,595 tons. It passed the million mark in 1887, the two million mark four years later, the three million mark in 1889 and the four million mark in the next year. The five million mark was soon passed, as was the sixth. An output of 7,533,088 was attained in 1910, and since then a steady rate of growth has been maintained, with but minor fluctuations year by year. Much of the coal is of high quality and is widely used for domestic purposes.

The following tabulation shows the output of Wyoming in recent years, the figures in each case being for the fiscal year ending September 30:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1912	7,340,139	1916	7,696,344	1920	9,623,271
1913	7,050,541	1917	8,575,619	1921	7,200,666
1914	7,186,587	1918	9,438,688	1922	5,971,724
1915	6,268,989	1919	7,219,738	1923	8,200,000

Montana.

Like the adjacent State of Wyoming, Montana has a great amount of coal within its borders, divided between numerous deposits in districts of various sizes. The most important is in the southeastern part of the State adjacent to the Sheridan field of Wyoming.

While there were small outputs reported in the '80s, the coal business of the State did not really assume importance until 1890 when the opening of new railroad lines caused the tonnage to reach 517,477 tons. The million ton mark was reached five years later. The output reached 2,016,857 tons in 1907 and since then has fluctuated year by year with an upward tendency as indicated below.

The tonnage in the years named has been as below:

Year.	Tons.	Year.	Tons.	Year.	Tons
1912	3,048,49[illegible]	1916	3,632,527	1920	4,403,866
1913	3,240,973	1917	4,226,689	1921	2,733,958
1914	2,805,173	1918	4,532,505	1922	2,572,221
1915	2,789,755	1919	3,236,369	1923	3,300,000

The Pennsylvania Coal & Coke Corporation mined 2,515,000 net tons of bituminous coal in 1923, the highest production since the war years, and more than double the output for 1922, when operations were tied up for several months by a strike.

Michigan.

The Michigan coal basin occupies, theoretically, a very large area in the central part of the State, but mining operations are confined to four small districts, of which that centering about Saginaw is the most important.

Coal was mined in Michigan on a small scale as far back as the Civil War and in the early '80s the tonnage exceeded 100,000 tons annually. From that time it decreased to 70,000 tons in 1894, but with the development and equipment of certain mines on a modern basis, prompted by the needs of the old Flint & Pere Marquette R. R. Co., considerable progress was made during the next few years and the tonnage reached 1,241,000 tons in 1901. It increased to 2,035,858 tons in 1907, which is the largest amount ever produced in one year in Michigan.

The coal of the State is not of a particularly high quality and has to meet on a competitive basis with tonnage from other States, in some districts of which there is the further advantage of better mining conditions.

Coal tonnage produced in Michigan during a series of years has been:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1912	1,206,230	1916	1,180,360	1920	1,487,765
1913	1,231,786	1917	1,374,805	1921	1,141,715
1914	1,283,030	1918	1,464,818	1922	929,390
1915	1,156,138	1919	996,545	1923	1,200,000

Kansas.

The earliest record of coal production of Kansas dates from 1869, but as the amount then reported was 36,891 tons it is probable that mining was carried on several years before that time.

The coal fields, three in number, are all in the eastern part of the State within easy access of the important consuming territory in and about Kansas City.

The output first exceeded one million tons in the year 1884 and grew rapidly in the next five years, reaching three million tons in 1892 and passing the four million ton mark in 1900. Since then the growth has been at a fluctuating rate, exceeding seven million tons on several occasions.

The tonnage in the years named has been as below:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1915	6,824,474	1918	7,561,947	1921	3,466,641
1916	6,881,455	1919	5,224,724	1922	2,955,170
1917	7,184,975	1920	5,838,408	1923	4,500,000

By way of historical resume we might note: The Blossburg district was opened in 1840, Georges Creek in 1842, Broad Top in 1856, Clearfield 1866, Meyersdale 1872, Chesapeake & Ohio 1878, Elk Garden 1881, Norfolk & Western 1883, and the Beech Creek in 1884.

Tennessee.

Like the neighboring State of Alabama, Tennessee has a long-extended coal trade history. There was an output of 558 tons recorded in 1840 and the production mounted steadily year by year until it reached 100,000 tons in 1855. The business was seriously interfered with by the Civil War and the resulting depression in the affairs of the South, not surpassing 200,000 tons until 1872. The State continued a larger coal producer than Alabama until 1883, and since then Tennessee has decreased considerably in relative importance, although output increased to 2,165,585 tons in 1890 and to 3,022,895 tons in 1898. In recent years the figures have not varied greatly from the 6,000,000-ton mark, although 1910 was a particularly good year.

The Tennessee mines are in narrow belt territory, extending north from the neighborhood of Chattanooga, the celebrated Jellico field being in the northern part thereof. This tonnage is largely used throughout the South for domestic purposes, even in proximity to the coal mines of Alabama, and finds some outlet in the neighboring State of Kentucky, also.

The tonnage has been as follows in past several years:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1912	6,473,228	1916	6,137,449	1920	6,585,228
1913	6,860,184	1917	6,194,221	1921	4,460,226
1914	5,943,258	1918	6,831,048	1922	4,876,774
1915	5,730,361	1919	5,213,205	1923	6,100,000

Oregon.

Oregon is one of the smallest coal producing States, probably the least important of those in which mining is conducted on a regular commercial basis.

There is a record of an output of 43,205 tons as far back as 1880, but a production of 100,000 tons was not attained until 1896, and since then the tendency has been downward more often than upward, so that the output is now less than it was 40 years ago, being only about 30,000 tons a year.

The mines are in the vicinity of Coos Bay from which, at one time, shipments to San Francisco could be made to good advantage. Development of oil in California, however, practically put a quietus on the coal industry.

Briquet Manufacturing Companies.

The following list of eastern anthracite briquet manufacturers may be of interest to retail dealers looking for substitutes for domestic sizes:

Burnite Coal Briquet Co., 543 New Jersey avenue, Newark, N. J. Fuel Briquet Co., 520 Brunswick avenue, Trenton, N. J.; General Briquetting Co., 25 Broad street, New York; American Briquet Co., Drexel Building, Philadelphia; Anthracite Briquette Co., Sunbury, Pa.; Lehigh Coal & Navigation Co., 437 Chestnut street, Philadelphia; Scranton Anthracite Briquet Co., Dickson City, Pa.

BITUMINOUS SHIPMENTS AT ATLANTIC PORTS

Movements in 1923 Exceed 1922, Only Surpassed by 1920—Hampton Roads Does Nearly Half the Business.

The total quantity of bituminous coal handled at tidewater during the year 1923 was 37,521,000 net tons, almost exactly equal to that of 1919 and 1921. The distribution of the tonnage by ports showed marked changes. Dumpings through New York declined in importance as compared with 1921, while those at Hampton Roads, and still more at Baltimore, increased. The most conspicuous change was in the distribution of the tonnage by destination. Exports, though greater than in the strike year 1922, when the United States was forced to import coal from the United Kingdom, were not much more than half those of 1921, and less than one-fourth of those of 1920. The quantity of bunker coal, however, increased.

The largest increase was in the coastwise movement to New England, which was reported as 13,374,000 net tons, against 8,859,000 tons in 1921 and 10,457,000 in 1920.

Details for the past five years are shown below:

Summary of Tidewater Bituminous Business for Five Years—By Ports:

	1919	1920	1921	1922	1923
New York	14,234,000	14,825,000	11,912,000	7,440,000	10,800,000
Philadelphia	4,411,000	6,191,000	3,641,000	2,158,000	3,893,000
Baltimore	3,467,000	7,831,000	4,136,000	1,917,000	5,068,000
Hampton Roads	14,630,000	24,026,000	17,242,000	16,626,000	17,384,000
Charleston	320,000	911,000	392,000	332,000	376,000
All ports	37,062,000	53,784,000	37,323,000	28,473,000	37,521,000

Summary of Tidewater Bituminous Business—By Destinations.

Coastwise to	1919	1920	1921	1922	1923
New England	8,386,000	10,457,000	8,859,000	10,892,000	13,374,000
Exports	8,292,000	21,778,000	9,633,000	1,613,000	4,122,000
Bunker	6,874,000	9,171,000	8,135,000	4,577,000	5,442,000
Inside capes	3,438,000	3,410,000	3,251,000	3,332,000	4,460,000
Other tonnage	10,072,000	8,968,000	7,445,000	8,059,000	9,123,000
All destinations	37,062,000	53,784,000	37,323,000	28,473,000	37,521,000

Destinations in 1923.

Year 1923	New York	Philadelphia	Baltimore	Hampton Roads	Charleston	Total
New England	1,607,000	894,000	1,202,000	9,628,000	43,000	13,374,000
Exports	4,000	356,000	1,629,000	2,863,000	270,000	5,122,000
Bunker	2,705,000	458,000	420,000	1,819,000	40,000	5,442,000
Inside capes	.....	2,181,000	1,759,000	520,000	.....	4,460,000
Other tonnage	6,484,000	4,000	58,000	2,554,000	23,000	9,123,000
Total	10,800,000	3,893,000	5,068,000	17,384,000	376,000	37,521,000

Tonnage and Value of United States Coal.

The most recent report of the United States Geological Survey gives this statement of the coal production of the United States in 1921 and 1922 by States, with value at the mines:

State	Quantity 1921	Value 1921	Quantity 1922	Value 1922
Alabama	12,568,899	$38,713,000	18,324,740	$42,856,000
Alaska	76,817	.....	79,275	431,000
Arkansas	1,227,777	5,360,000	1,110,046	4,592,000
California and Idaho	38,845	181,000	26,893	104,000
Colorado	9,122,760	32,377,000	10,019,597	31,701,000
Georgia	33,815	171,000	60,636	246,000
Illinois	69,602,763	190,986,000	58,467,736	168,925,000
Indiana	20,319,509	52,269,000	19,132,889	54,524,000
Iowa	4,531,392	17,256,800	4,335,161	16,119,000
Kansas	3,466,641	13,333,300	2,955,170	10,816,000
Kentucky	31,588,270	85,092,600	42,134,175	127,037,000
Maryland	1,827,740	6,602,000	1,222,707	4,122,000
Michigan	1,141,715	5,555,000	929,390	4,693,000
Missouri	3,551,621	13,915,500	2,924,750	11,153,000
Montana	2,733,958	8,921,600	2,572,221	8,208,500
New Mexico	2,453,482	9,585,000	3,147,173	10,977,000
North Carolina	23,438	.....	78,570	388,000
North Dakota	864,903	2,329,500	1,327,564	3,513,000
Ohio	31,942,776	84,686,000	26,953,791	87,056,000
Oklahoma	3,362,623	15,546,000	2,802,511	11,527,000
Pennsylvania—Anthracite	90,473,451	452,305,000	54,683,022	273,700,000
Pennsylvania—Bituminous	116,013,942	322,538,300	113,148,308	351,777,000
Total Pennsylvania	206,487,393	774,843,300	167,831,330	625,477,000
South Dakota	7,553	21,200	7,752	22,000
Tennessee	4,460,326	14,932,000	4,876,774	14,096,000
Texas	972,839	2,563,600	1,106,007	2,563,000
Utah	4,078,784	13,662,000	4,992,008	15,687,500
Virginia	7,492,378	22,947,700	10,491,174	27,083,000
Washington	2,428,722	9,787,000	2,581,165	10,279,000
West Virginia	72,786,996	206,661,500	80,488,192	236,162,000
Wyoming	7,200,666	23,358,500	5,971,724	18,162,000
Totals, net tons and dollars	506,395,401	$1,652,288,600	476,951,121	$1,548,520,000

Petroleum output in 1923 is estimated at 735,000,000 barrels, an increase of nearly 30 per cent over the previous high record, 531,000,000 barrels in 1922. The most active production was in October, since which time there has been a curtailment of output. The effect thereof on the market is shown by the fact that there have been six increases in Pennsylvania crude oil since the middle of December.

Bituminous Coal Mined by Machinery.

The tonnage of bituminous coal mined by machine in each State is thus reported by the United States Geological Survey:

State	1917	1918	1919	1920	1921	1922
Alabama ...	6,062,744	5,951,547	5,135,655	5,654,437	5,012,152	7,265,408
Arkansas ..	154,615	242,984	113,218	68,107	159,591	171,426
Colorado ...	4,077,520	4,574,017	4,157,836	5,388,964	4,182,342	5,051,340
Illinois	48,576,462	50,566,911	35,913,902	54,923,724	45,609,876	38,952,697
Indiana	13,344,845	14,997,532	10,819,551	14,291,782	10,737,554	9,539,004
Iowa	1,022,101	876,754	659,209	1,616,333	698,443	588,877
Kansas	34,823	56,314	54,670	66,518	34,269	95,152
Kentucky ..	23,221,880	24,808,171	23,956,661	27,685,488	26,509,733	33,322,271
Maryland ..	290,116	301,965	311,324	457,150	186,165	303,070
Michigan ...	1,199,263	1,272,285	943,519	1,397,537	1,091,455	893,380
Missouri ...	1,127,843	1,244,682	1,888,357	1,396,188	1,063,127	871,466
Montana ...	2,070,075	2,268,318	1,429,304	2,095,738	1,106,567	1,433,602
N. Mexico..	1,052,684	1,236,709	957,549	1,254,993	743,864	986,417
N. Dakota..	300,417	344,482	324,961	357,833	336,848	442,436
Ohio	35,828,497	38,841,452	31,238,608	38,192,460	29,256,048	21,683,670
Oklahoma ..	1,605,117	1,899,487	1,798,933	2,348,041	1,908,959	1,398,535
Pennsylvania.	95,423,140	98,334,139	86,382,120	98,853,831	73,842,026	65,619,223
Tennessee ..	1,399,825	1,549,945	1,597,489	1,707,046	1,239,611	1,435,530
Texas	2,688	2,000	10,267	32,755	44,740	47,217
Utah	2,259,697	2,767,084	3,187,766	3,523,148	3,070,582	3,816,537
Virginia	6,440,561	6,394,276	6,312,020	7,950,964	5,841,695	7,541,631
Washington.	231,856	249,110	273,115	395,125	131,566	330,141
W. Virginia.	56,075,888	60,682,232	55,562,196	64,921,571	56,163,635	61,763,445
Wyoming ..	3,593,470	4,462,737	3,982,269	5,238,743	3,731,501	3,451,956
Other States	.....	.....	.....	.....	.....	28,500
Total ..	306,396,127	323,931,133	276,019,799	339,813,476	272,702,339	267,032,931

The percentage of machine mined production in years 1904-1921 has been, respectively, 28.8, 33.67, 35.1, 37.5, 38, 41.7, 43.8, 46.8, 50.7, 51.7, 55, 56.5, 55.5, 55.9, 59.2, 59.8, 65.6 and 63.2.

Chicago Freight Rates.

The new freight rates on coal to Chicago from the various producing points, effective July 1st, 1922, compared with the old rates, are as follows:

	Old	New		Old	New
Central Illinois	$1.81	$1.65	W. Va. (Pocahontas).....	3.58	3.24
Southern Illinois	2.17	1.95	East Kentucky	3.43	3.09
Belleville, Ill.	2.06	1.85	West Kentucky	2.40	2.16
Brazil, Ind.	1.78	1.60	Ohio Hocking	3.18	2.80
Sullivan, Ind.	1.88	1.69	Anthracite (Penn. net tons)	5.63	5.07
W. Va. (High Vol.).....	3.43	3.09			

Bituminous Coal Mining; Methods Used, 1922.

	Mined by Hand	Shot Off the Solid	Mined by Machines	From Strip Pits	Not Specified	Total Production
Alabama ...	3,654,253	6,907,192	7,265,408	375,166	122,721	18,324,740
Arkansas ..	42,307	798,440	171,426	39,761	58,112	1,110,046
Colorado ...	4,217,871	617,786	5,051,340	2,700	129,900	10,019,597
Georgia	.....	20,600	.....	40,036	.....	60,636
Illinois	3,152,543	15,257,280	38,952,697	720,060	385,156	58,467,736
Indiana	1,258,355	6,694,581	9,539,004	1,374,715	266,234	19,132,889
Iowa	783,502	2,878,096	588,877	.....	84,686	4,335,161
Kansas	116,183	2,136,119	95,152	404,947	202,769	2,955,170
Kentucky ..	1,766,963	5,355,037	33,322,271	468,845	1,221,059	42,134,175
Maryland ..	691,172	174,625	303,070	.....	53,840	1,222,707
Michigan ...	500	35,510	893,380	.....	.....	929,390
Missouri ...	355,821	756,672	871,466	833,427	107,364	2,924,750
Montana ...	564,489	532,244	1,433,602	.....	41,886	2,572,221
N. Mexico..	1,589,120	529,068	986,417	.....	42,568	3,147,173
N. Dakota..	13,882	400,325	442,436	274,722	196,199	1,327,564
Ohio	753,100	675,978	21,683,670	3,156,615	684,428	26,953,791
Oklahoma ..	15,397	1,008,307	1,398,535	321,580	58,692	2,802,511
Pennsylvania.	37,894,142	4,213,465	65,619,223	1,951,316	3,470,162	113,148,308
Tennessee ..	665,757	2,661,860	1,435,530	6,411	107,216	4,876,774
Texas	755,378	284,412	47,217	.....	19,000	1,106,007
Utah	973,697	200,824	3,816,537	.....	950	4,992,008
Virginia ...	511,515	2,371,657	7,541,631	.....	66,371	10,491,174
Washington.	1,179,153	1,032,724	330,141	.....	39,147	2,581,165
W. Virginia.	15,335,166	2,650,315	61,763,445	179,841	559,425	80,488,192
Wyoming ..	900,866	1,530,316	3,451,956	75,000	13,586	5,971,724
Other States	53,107	103,111	28,500	.....	7,772	192,490
Total ..	77,244,239	59,826,544	267,032,931	10,225,142	7,939,243	422,268,099

Wages in Southeastern Kentucky.

A wage agreement running until April 1, 1924, was entered into in southeastern Kentucky and eastern Tennessee by the U. M. W. and operators belonging to the Kentucky-Tennessee Coal Operators' Association. The scale is as follows:

Machine runner, $4.40; machine runner's helper, $3.44; coupler, $3.44; single driver, $3.44; track helper, $3.44; wiremen and pumpmen, $3.44; pumpman, $3.44; timberman's helper, $3.44; inside labor, not classified, $3.44; motorman, $4.00; spike team and boss drivers, $3.84; head trackman, $3.84; head timberman, $3.84; bratticeman, $3.84; trappers and boys, $2.00; blacksmith, $4.00; drum man, $4.00; engineer, $3.84; carpenter, $3.84; blacksmith's helper, $3.60; carpenter's helper, $3.60; firemen, $3.04; tippers, $3.20; trimmers, $3.20; teamsters, $2.80; outside labor, not classified, $2.72; greaser, $2.64; sandman, $2.64; yard coupler, $2.64; inexperienced coal loaders, $2.80.

Imports of coal by Belgium from Great Britain during 1923 amounted to 4,676,225 tons, more than double amount in 1913.

AVERAGE PRICE FOR COAL AT THE MINES

General Details and Figures by States Show Price of Tonnage for a Term of Years.

Anthracite and bituminous prices, at mines, for ten years have been as follows, according to figures furnished to the United States Geological Survey:

	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
Bituminous ...	$1.18	$1.17	$1.13	$1.32	$2.26	$2.58	$2.49	$3.73	$2.89	$3.02
Anthracite ...	2.13	2.07	2.07	2.30	2.85	3.40	4.14	4.84	5.00	5.01

These figures are based upon the total tonnage shipped of all grades, sizes and qualities, with the due proportion of each. And anthracite figures are reduced to net tons, as are also bituminous figures in cases where that coal is sold in gross tons:

Details by States appear below:

State	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
Alabama	$1.31	$1.34	$1.28	$1.37	$2.27	$2.85	$2.96	$3.63	$3.08	$2.34
Arkansas ...	1.76	1.72	1.79	1.92	2.56	3.67	3.70	4.55	4.37	4.14
California ...	3.54	2.85	2.54	2.12	2.30	2.70	3.38	4.23	4.66	3.87
Colorado	1.52	1.66	1.58	1.62	2.22	2.69	2.78	3.49	3.55	3.16
Georgia	1.41	1.44	1.72	1.79	2.53	3.59	3.71	5.00	2.14	4.06
Illinois	1.14	1.12	1.10	1.25	1.88	2.32	2.30	3.08	2.74	2.89
Indiana	1.11	1.10	1.10	1.27	1.99	2.29	2.22	3.16	2.57	2.85
Iowa	1.79	1.79	1.78	1.86	2.35	3.02	3.09	3.94	3.81	3.72
Kansas	1.67	1.64	1.66	1.78	2.31	2.91	3.05	3.85	3.85	3.66
Kentucky ...	1.05	1.02	1.01	1.19	2.17	2.55	2.46	4.10	2.69	3.02
Maryland ...	1.24	1.27	1.28	1.56	2.46	2.77	2.73	4.62	3.61	3.37
Michigan ...	1.99	1.99	2.05	2.25	3.22	3.83	3.88	4.93	4.87	5.05
Missouri	1.73	1.73	1.73	1.91	2.43	3.02	3.21	4.13	3.92	3.81
Montana	1.74	1.75	1.62	1.73	2.11	2.53	2.67	3.15	3.26	3.19
N. Mexico...	1.46	1.61	1.44	1.47	1.86	2.68	3.11	3.68	3.91	3.49
N. Dakota...	1.52	1.52	1.45	1.49	1.80	2.45	2.50	2.88	2.69	2.65
Ohio	1.10	1.13	1.08	1.33	2.48	2.58	2.22	3.80	2.65	3.23
Oklahoma ...	2.05	2.06	2.01	2.09	2.81	3.64	3.83	4.80	4.62	4.11
Oregon	2.53	2.78	2.84	2.68	3.38	2.81	3.40	4.47	*	*
Penn., bit....	1.11	1.07	1.06	1.30	2.44	2.59	2.42	3.73	2.78	3.11
S. Dakota....	1.96	1.73	1.55	2.03	2.90	2.80	3.17	3.60	2.81	2.84
Tennessee ...	1.14	1.14	1.13	1.23	2.19	2.83	2.77	4.00	3.35	2.89
Texas	1.77	1.69	1.65	1.56	1.77	2.63	2.69	3.75	2.64	2.32
Utah	1.65	1.59	1.58	1.62	2.07	2.71	2.76	3.22	3.35	3.14
Virginia	1.01	1.01	.98	1.06	2.00	2.51	2.55	3.96	3.06	2.58
Washington .	2.38	2.20	2.17	2.27	2.68	3.46	3.58	3.88	4.03	3.98
W. Virginia..	1.01	.99	.97	1.18	2.32	2.56	2.49	4.32	2.84	2.93
Wyoming ...	1.56	1.55	1.46	1.55	1.93	2.39	2.60	2.98	3.24	3.04
Total bit.	1.18	1.17	1.13	1.32	2.26	2.58	2.49	3.73	2.89	3.02
Penn., anth..	2.13	2.07	2.07	2.30	2.85	3.40	4.14	4.84	5.00	5.01
Gen. ave.	1.33	1.33	1.29	1.47	2.35	2.70	2.75	3.89	3.26	3.25

*Included in California.

These figures have the accuracy guaranteed by Government investigation, and yet it must be recognized that averaging up the entire output in such a way embraces so many dissimilar factors that an application of the average must be made only with caution. For instance, the anthracite figures include the price realized on all sizes of coal, even down to culm, sold, perhaps, at a merely nominal price. And the bituminous figures not only include the high prices realized at certain remote places where cost of mining is high, but also include the tonnage supplied on large contracts by concerns having a more or less definite interest in the affairs of their customers.

Labor Employed in Coal Mining.

The following table shows the number of men employed in coal mining in the various States in 1921 and 1922, underground and on the surface, and the number of days worked:

State	1921 Underground	1921 Surface	1921 Total	1921 Days Wkd.	1922 Underground	1922 Surface	1922 Total	1922 Days Wkd.
Alabama	21,173	4,636	25,809	166	23,143	5,026	28,169	215
Arkansas	3,163	453	3,616	112	3,159	676	4,035	81
Colorado	11,906	2,623	14,529	164	11,069	2,437	13,506	191
Georgia	85	51	136	183	91	59	150	242
Illinois	85,509	9,922	95,431	152	86,296	10,040	96,336	120
Indiana	28,932	3,755	32,687	128	28,893	4,315	33,208	110
Iowa	10,412	974	11,386	148	11,846	1,011	12,857	131
Kansas	6,991	1,216	8,207	137	6,412	947	7,359	125
Kentucky	41,733	8,788	50,521	152	50,396	10,528	60,924	140
Maryland	3,942	726	4,668	120	3,226	529	3,755	101
Michigan	1,968	244	2,212	196	1,974	192	2,166	162
Missouri	6,971	1,584	8,555	166	7,218	1,532	8,750	113
Montana	3,460	718	4,178	143	3,098	537	3,635	140
New Mexico	3,855	722	4,577	150	3,222	779	4,001	216
North Carolina	45	15	60	300	95	32	127	167
North Dakota	775	289	1,064	194	1,136	512	1,648	175
Ohio	44,698	7,087	51,785	134	45,906	8,288	54,194	100
Oklahoma	7,425	1,429	8,854	141	6,624	1,204	7,828	114
Pennsylvania (bit.)	164,222	26,421	190,643	151	159,451	29,387	188,838	154
South Dakota	43	.....	43	129	32	.....	32	138
Tennessee	8,561	1,786	10,347	154	9,533	1,916	11,449	163
Texas	2,598	294	2,892	139	2,535	306	2,841	185
Utah	3,491	931	4,422	151	3,629	1,092	4,721	204
Virginia	9,807	2,115	11,922	166	10,857	2,542	13,399	198
Washington	3,486	848	4,334	159	3,604	877	4,481	194
West Virginia	84,752	17,098	101,850	149	90,814	19,200	110,014	143
Wyoming	7,020	1,464	8,484	167	7,643	1,402	9,045	128
Total bituminous	567,289	96,465	663,754	149	582,409	105,549	687,958	142
Pennsylvania anthracite	116,817	42,682	159,499	271	114,279	42,570	156,849	151
Grand totals	684,106	139,147	823,253	173	696,688	148,119	844,807	144

Bituminous Coal Produced at Strip Pits.

The growing importance of strip pits as producers of soft coal is indicated by the following table. In the year 1922, 10,225,000 tons—equivalent to 2.4 per cent of the total output—were produced by the strip mines. They employed 9,108 men. The total number of steam and electric shovels used was 379. The mines at which these shovels were employed produced 9,886,431 tons of coal. In addition, 338,711 tons were produced at workings where some method other than a steam or electric shovel was used in removing the overburden and loading the coal.

Ohio leads all other States in the tonnage of strip-mined coal. Nearly one-third of the 1922 output was reported from that State. Other leading producers were in order of rank, Pennsylvania, Indiana, Missouri, and Illinois.

Production, Number of Employees, and Number of Steam and Electric Shovels

State	Production, in net tons			Average number of men employed	No. of steam & electric shovels *a*
	1920	1921	1922		
Alabama	224,491	342,033	375,166	421	15
Arkansas	1,860	3,350	39,761	151	3
Colorado	.....	.....	2,700	1	..
Georgia	.....	10,563	40,036	59	..
Illinois	610,209	586,203	720,060	520	23
Indiana	1,361,869	800,738	1,374,715	1,323	50
Kansas	706,586	367,207	404,947	482	19
Kentucky	20,687	134,729	468,845	321	15
Missouri	1,142,617	782,243	833,427	967	32
North Dakota	108,376	122,889	274,722	209	5
Ohio	3,322,387	1,260,815	3,156,615	2,297	108
Oklahoma	239,422	230,059	321,580	262	14
Pennsylvania	1,244,537	488,253	1,951,316	1,906	83
Tennessee	15,706	2,406	6,411	20	1
West Virginia	31,854	6,000	179,841	109	8
Wyoming	50,000	68,322	75,000	60	3
Other States	800	.....	.....	....	..
Total	9,081,401	5,205,810	10,225,142	9,108	379

a Includes a small number of shovels used underground.

Frick Wage Rates at Connellsville Mines and Ovens.

Wage rates of the H. C. Frick Coke Co., in effect August 23, 1922, and continuing throughout 1923, are: Mining, loading room, rib coal per 100 bushels, $3.24; loading heading coal, 100 bushels, $3.56; loading wet heading coal, 100 bushels, $3.85; loading machine coal, 100 bushels, $2.10; drawing coke, hand, 100 bushels, $2.16; leveling hand, per oven 31 cents; drivers, rope riders, shafts and slopes $7.55 per day; drivers, rope riders, drift, per day, $7.50; cagers, shafts and slopes, per day, $7.50; cagers, drift, per day, $7.50; fire bosses, per day, $6.30; tracklayers, blasters and timbermen, shafts and slopes, per day, $5.05; tracklayers, blasters and timbermen, drift, per day, $7.50; assistant tracklayers, blasters and timberman, per day, $6.75; inside laborers, per day, $6.55; outside laborers, per day, $3.60.

United States Foreign Trade in Petroleum Products, 1923.

Exports of all principal petroleum products from the United States during 1923, with the exception of kerosene, were considerably larger than the shipments for the preceding year. Exports of gasoline and napthas set a new high record, as did those of gas and fuel oil. Crude-oil shipments were over 70 per cent above those for 1922, while shipments of gasoline and napthas registered a gain of 46 per cent. Gas and fuel oil exports were nearly 28,000,000 gallons above the previous high point reached in 1918 and 76 per cent above the 1922 figure. Lubricating oils and paraffin wax registered increases of 5 per cent and 16 per cent, respectively, while kerosene shipments declined about 5 per cent. Comparative figures are shown in the following table:

Exports of Chief Petroleum Products—Gallons.

Petroleum and products	1913[1]	1921	1922	1923
Crude petroleum.....	195,642,935	372,350,885	419,793,896	716,551,862
Gasoline, naptha, and other light products...	183,520,489	533,075,333	579,062,006	845,693,830
Illuminating oil.....	1,048,894,297	748,973,098	895,230,641	847,929,454
Lubricating oil.....	213,671,499	289,316,620	331,359,687	348,420,523
Gas and fuel oils[3].....	320,529,925	845,060,703	697,219,404	1,228,594,295
Residuum	27,513,568	9,158,992	10,071,542	1,440,775

[1] Fiscal year ending June 30.
[2] Does not include bunker oil laden on vessels engaged in the foreign trade, which amounted to 27,076,138 barrels, valued at $57,183,282 in 1921; 31,692,201 barrels, valued at $43,677,579 in 1922, and 37,581,845 barrels, valued at $52,204,729 in 1923.

Vessel Rates On Great Lakes.

Contract coal rates from Lake Erie ports to Lake Superior and Lake Michigan ports during several years were:

Year	Lake Superior Ports	Lake Mich. Ports	Year	Lake Superior Ports	Lake Mich. Ports	Year	Lake Superior Ports	Lake Mich. Ports
1900	50c	60c	1907	30c	40c	1914	30c	30c
1901	35c	50c	1908	30c	40c	1915	30c	30c
1902	35c	45c	1909	30c	..	1916	30c	30c
1903	40c	50c	1910	30c	35c	1917	42.5c	50c
1904	35c	45c	1911	30c	30c	1918	48c	55c
1905	30c	40c	1912	30c	30c			
1906	30c	40c	1913	30c	35c			

	Green Bay, Escanaba,	Sheboygan, Manitowoc	Milwaukee, Waukegon, Menominee	Ind. Harbor, Gary By-products at So. Chicago	Other So. Chicago Docks	Racine	Chicago
1919	42.5c	42.5c	47.5c	47.5c	52.5c	57.5c	60c
1920	50c	55c	60c	60c	..	65c	65c
1921	50c	55c	60c	60c	..	65c	65c
1922	40c	55c	55c	55c	..	65c	65c
1923	45c	50c	55c	55c	..	65c	65c

MONTHLY BITUMINOUS PRODUCTION

Fifty-Seven Million, Two Hundred Thousand Tons in October, 1919, High Monthly Record for Industry—Sixteen Million Tons in April, 1922, Low Point of Past Ten Years.

Bituminous coal produced in the United States, by months, 1914-1923 inclusive, in net tons, was:

Month	1914	1915	1916	1917	1918
January	40,188,000	37,190,000	46,596,000	47,967,000	42,227,000
February	35,472,000	29,321,000	45,187,000	41,353,000	43,777,000
March	45,455,000	31,801,000	43,827,000	47,869,000	48,113,000
April	23,609,000	29,968,000	33,628,000	41,854,000	46,041,000
May	28,551,000	30,938,000	38,804,000	47,086,000	50,443,000
June	31,412,000	33,957,000	37,742,000	46,824,000	51,138,000
July	34,305,000	35,573,000	38,113,000	46,292,000	54,971,000
August	37,751,000	38,161,000	42,696,000	47,372,000	55,114,000
September	39,019,000	40,964,000	42,098,000	45,108,000	51,183,000
October	37,685,000	44,198,000	44,807,000	48,337,000	52,300,000
November	33,392,000	44,737,000	44,927,000	47,690,000	43,895,000
December	35,862,000	45,814,000	44,098,000	44,037,000	40,184,000
Total	422,701,000	443,572,000	502,523,000	551,789,000	579,386,000

Month	1919	1920	1921	1922	1923
January	42,193,000	49,748,000	41,148,000	37,489,000	50,178,000
February	32,103,000	41,055,000	31,524,000	40,856,000	42,160,000
March	34,293,000	47,850,000	31,054,000	49,976,000	46,802,000
April	32,712,000	38,764,000	28,154,000	16,000,000	42,564,000
May	38,186,000	39,841,000	34,057,000	20,601,000	46,076,000
June	37,685,000	46,095,000	34,635,000	22,624,000	45,490,000
July	43,425,000	45,988,000	31,047,000	17,147,000	45,126,000
August	43,613,000	49,974,000	35,291,000	27,538,000	48,864,000
September ...	48,209,000	50,241,000	35,870,000	39,413,000	46,216,000
October	57,200,000	53,278,000	44,687,000	44,907,000	49,171,000
November	19,006,000	52,576,000	36,805,000	45,103,000	42,946,000
December	37,235,000	53,257,000	31,650,000	46,240,000	39,707,000
Total	465,860,000	558,667,000	415,922,000	407,894,000	545,300,000

In the past ten years tonnage has fluctuated between 407,000,000 tons and 579,000,000 tons, a difference of more than 43 per cent.

The dissipation of every ton of coal divided into component parts has been figured by the director of the United States Geological Survey as follows: At the outset 600 pounds are lost in mining. Once the remaining 1,400 pounds comes to the surface, it takes 126 pounds to get the coal from the mine to the boiler room. There 446 pounds float up the smokestack in waste gases. 51 pounds escape in radiation and another 51 in the ash pit. The amount lost converting heat energy into mechanical energy is 650 pounds, leaving the remaining 76 pounds really to accomplish something productive.

RECEIPTS OF COAL IN NEW ENGLAND

Volume of Business in Both Anthracite and Bituminous in 1923 Far Above Average of Past Four Years.

The following tables summarize the receipts of anthracite and bituminous coal in New England, including steam sizes, for each month, from 1918 to 1922 as compiled by the Massachusetts Special Commission on the Necessaries of Life from the records of the carriers. The figures are in net tons.

Anthracite—Tide and Rail.

	1918	1919	1920	1921	1922	1923
January	777,862	916,120	865,749	959,000	475,000	1,008,000
February	782,236	788,004	571,532	1,114,000	757,000	956,000
March	1,120,246	347,640	845,384	1,203,000	1,094,000	1,197,000
April	1,158,279	782,456	796,689	905,000	478,000	1,017,000
May	1,311,572	983,794	947,670	1,041,000	177,000	1,121,000
June	1,503,871	826,674	1,175,274	1,072,000	145,000	1,152,000
July	1,576,661	1,013,365	869,933	961,000	133,000	1,119,000
August	1,380,866	883,504	1,078,386	788,000	94,000	1,050,000
September ...	1,243,873	1,028,947	986,954	688,000	215,000	411,000
October	1,089,883	1,047,795	1,128,725	919,000	908,000	1,084,000
November ...	822,913	912,125	908,113	870,000	1,013,000	974,000
December ...	852,372	1,047,764	1,080,936	854,000	982,000	1,095,000
Total	13,620,640	10,578,188	11,255,345	11,374,000	6,471,000	12,184,000

Bituminous—Tide and Rail.

	1918	1919	1920	1921	1922	1923
January	1,533,084	1,392,064	1,477,194	1,688,000	1,337,000	1,852,000
February	1,708,350	1,210,497	1,336,346	1,265,000	1,834,000	2,040,000
March	2,309,635	1,069,891	1,165,472	1,335,000	2,286,000	2,306,000
April	2,216,795	1,446,680	1,393,962	1,190,000	1,258,000	2,137,000
May	2,601,486	1,566,522	1,792,764	1,238,000	948,000	2,108,000
June	2,456,909	1,555,650	1,662,611	1,558,000	929,000	2,098,000
July	3,053,115	1,744,254	2,425,023	1,246,000	943,000	2,024,000
August	3,019,728	1,827,140	2,403,587	1,500,000	1,253,000	2,146,000
September ...	2,549,715	2,036,529	2,340,889	1,468,000	2,300,000	2,035,000
October	2,318,820	1,945,333	2,016,661	1,647,000	2,212,000	1,752,000
November ...	1,971,102	1,087,238	1,781,275	1,581,000	1,801,000	1,465,000
December ...	1,432,742	1,300,185	2,050,000*	1,472,000	1,707,000	1,722,000
Total	27,171,480	18,181,883	22,445,784	17,188,000	18,807,000	23,685,000

*Estimate.

The coal output of Jugo-Slavia for 1922 was the largest since the formation of the kingdom. The production increased from about 2,500,000 metric tons in 1919, to nearly 4,000,000 in 1922. There was also an increase in copper ore, the output being 85,000 metric tons in 1922, as against 64,000 in 1921.

REVIEW OF THE ANTHRACITE INDUSTRY IN 1923

Began with Shortage of Domestic Coal; Closed with Supply Normal—Commission's Report One-Sided and of Little Real Value.

By E. W. PARKER

Director Anthracite Bureau of Information.

The calendar year 1923 in the anthracite industry, which came in like a lion as far as market conditions were concerned, went out like a lamb. It began with (so far as the operators were concerned) an unavoidable shortage in the supplies of coal available, owing to the protracted strike of 1922. It ended with production and shipments substantially normal, although there had been another general strike which covered more than half the month of September. The production for the year, notwithstanding the loss of approximately 4,500,000 tons by the strike in September, slightly exceeded that of 1921, the latest year of normal operations.

This strike followed the termination of the agreement of September 3, 1922, which expired by limitation at midnight August 31, 1923. When that agreement had been executed, it was understood that both sides would come together in advance of its expiration and endeavor to write a new agreement in the light of the report on anthracite expected from the United States Coal Commission. That Commission had been directed by law to make a preliminary report on anthracite not later than July 1st, but the first report did not come out until the second week in July, under date of July 9th.

This report was very general in its terms and it contained no specific recommendations for the guidance of the anthracite conference. The joint negotiating committee, which had convened in Atlantic City, July 6th, therefore began its work without any of the specific information and recommendations which had been contemplated by the agreement of 1922 and by the act of Congress creating the United States Coal Commission.

The demands of the union covered eleven main subjects, including seven points which had been rejected by the United States Anthracite Commission of 1920. The substance of the demands was: Complete recognition of the union with the closed shop and check-off; 20 per cent increase in wage rates and flat $2 per diem increase for all day workers; punitive overtime; universal eight-hour day; and determination of grievances by equity instead of by bases created by agreements from 1903 onwards and crystallized into practice by the Anthracite Board of Conciliation.

Wage Negotiations Begin.

At the outset the operators agreed that, in the case of the few employes working more than eight hours a day the eight-hour day should be established. They demurred at the demand for increased wages. The closed shop and check-off, recognized as a stone of stumbling, were passed over for the time being, but on July 26th, the union representatives took the stand that this issue must be disposed of first, and that if it were not granted there would be no use in proceeding.

The operators replied the following day by rejecting this demand and at the same time offering to renew the existing agreement to April 1, 1925, or to

submit all matters at issue, including the closed shop and check-off, to arbitration, the mines to continue at work under a retroactive clause.

The negotiations terminated at this point, and on August 13th the United States Coal Commission intervened, suggesting a resumption of conferences in New York on August 15th. This was done and the conferees again went to Atlantic City August 20th. They deadlocked again, this time on the proposed wage increase, and adjourned indefinitely August 21st.

Governor Pinchot, of Pennsylvania, after a conference with President Coolidge, then intervened and requested a joint meeting with him in Harrisburg on August 27th. After holding both separate and joint conferences, and after consultations with Coal Commission attaches and others, he called a public meeting on August 29th and proposed a settlement on this basis:

Recognition of the basic eight-hour day for all employes, with necessary overtime paid at the eight-hour rate.

A uniform increase of 10 per cent to all employes.

A full recognition of the union without the check-off.

Complete recognition of the principle of collective bargaining.

Mr. Pinchot calculated that the wage increase would add about 60 cents per ton to the cost of domestic coal on board at the mine. He said this should not be passed on to the consumer, but proposed that the operators should absorb 10 cents while the rest should be absorbed by the transportation and distributing interests.

The union made a guarded reply, its representatives saying that they thought the Pinchot proposals paved the way for reopening joint negotiations, with the Pinchot suggestions on wages to be the basis for working out a new scale.

The operators replied that they had already accepted the universal eight-hour day, which would cost about $2,250,000 a year, or an addition of 5 cents a ton to the cost of producing domestic sizes.

They pointed out that a general 10 per cent increase would mean $30,000,000 additional on the annual wage bill, and that this would amount to a minimium of 75 cents a ton on domestic sizes instead of 60 cents which the Governor had figured.

They also pointed out that it was impossible to enter into any agreement for the regulation of prices, since this was forbidden by law. They showed that the Pinchot proposals for having the railroads and distributors absorb the inevitable increase in the cost of coal, were beside the mark. As they said, rail rates were a matter for the Interstate Commerce Commission, while distribution costs could be reduced only by voluntary action of the distributors.

Under these circumstances, the operators added, they could not see how any person, whether private individual or public officer, could assure the absorption of the increase. They agreed to recognition of the union and collective bargaining as signifying merely a continuance of existing conditions.

Agreement Reached September 8th.

Meanwhile the strike went into effect. Both sides went into conference again with Governor Pinchot and on September 8th agreed on a contract embodying the 10 per cent flat increase, the basic eight-hour day for all employes, the correction of minor points involving the revision of colliery rate sheets, the speeding of grievances before the Conciliation Board, and the readjustment of inequities in

wage scales which might be discovered by inquiry. This contract was dated September 19th, the day the mines resumed work, and it runs to August 31, 1925.

Governor Pinchot endeavored to give effect to his policy of having the wage increase "absorbed" in several conferences with representatives of the producers. The essence of his proposals was that the producers should refuse to furnish coal to any retailers who charged more for coal now than they did a year ago. The producers rejected these proposals as contravening the Sherman act, a point in which the Attorney General of Pennsylvania agreed with them.

Because of this refusal on the part of the operators to enter into an illegal compact, Governor Pinchot instituted an open attack on the industry, summoning a conference of thirty-one Governors of anthracite-consuming States to be held in Harrisburg, November 26th. Only eleven States responded, and of these only two, New Jersey and Minnesota, were represented by their Governors. The Pinchot idea laid before the conferees was that the anthracite-using States should form a new union within the Union, and pool their police powers to regulate the anthracite industry, from mine to consumer, as a "public utility." The scheme, which also contemplated the possibility of the Federal Government entering the new union as representing the District of Columbia, was published broadcast, and a second conference to discuss it was set for December 13th.

In the meantime, a discussion of the whole coal question was held by the American Academy of Political and Social Science, in Philadelphia, November 16th and 17th. On that occasion Mr. S. D. Warriner, chairman of the General Committee of Anthracite Operators, stated the case for the anthracite industry, and the Governor made a vehement attack on the coal producers who would not undertake to violate the law.

The United States Coal Commission.

The United States Coal Commission owed its creation to the fact that there had been a general coal strike in 1922. The agreement which resulted in the settlement of the anthracite strike in that year contained, as one of its four points, a provision that both sides would unite in recommending the appointment of a commission with authority to investigate and "report promptly on every phase of the industry," and an additional clause that the expiration of the 1922 agreement on August 31, 1923, the continuance of anthracite mining should be "upon such terms as the parties may agree upon in the light of the report of the commission."

It was mentioned above that the commission made no report within the time limit set by the act of Congress, and that when the report did appear it contained nothing specific upon which a new agreement could be based.

The general outlines of what the commission did are sufficiently known to the public through the voluminous reports issued during the late summer and autumn. So far as the anthracite industry is concerned it is enough to say that the commission seemed to pay chief attention to the profits, or lack of profits, on the books of the producers, and to the presentation of some more or less highly embroidered economic theories.

On the questions raised by the development of dominating labor unions like the United Mine Workers of America, the commission has maintained unbroken silence. In short, the commission did not investigate and report on "every phase of the industry" as expected by the terms of the agreement of 1922, and its year

of work was fruitless and ineffective so far as providing any plan for reaching an agreement in 1923 was concerned.

Labor Supply.

It is a fact not without significance that labor supply in the anthracite mines varies hardly at all, and this has been the case this year. The normal number of anthracite employes, on the basis of post-war conditions, is about 155,000. No labor upheavals, like the long strike of 1922 and the briefer one in 1923, seemed to affect this supply to an extent; nor did the state of the labor market elsewhere, even in boom times, exert any influence in drawing men away permanently.

The labor supply in the anthracite mines showed a variation of less than two-thirds of one per cent from the average of 1922. This steadiness in itself implies wage conditions which compare favorably with those in competing industries, and the existence of good working conditions in general aside from wages.

As one result of the general strike of 1922, and the limitation of anthracite output for the year to approximately 60 per cent of normal, the year ended with a lessened supply and a demand naturally much in excess of the current production. Stocks in the hands of producers and retailers were at the zero mark. By concurrent action of Federal and State authorities and a committee of anthracite operators, distribution was controlled from Pennsylvania, the Director of the Anthracite Bureau of Information acting as director of distribution for the operators.

By similar concurrent action of Federal and local authorities, community distributions were regulated and guided in the principal anthracite-consuming States. Every endeavor was made to see that each anthracite-using district got its fair pro rata share of available coal, and by the sincere co-operation of Federal and State officers, producers and distributors, this end was quite generally realized.

When the year 1923 began demand was not only widespread but insistent, and so continued not only during the coal-burning weather but throughout the entire year. The effectiveness of the operators' scheme of distribution is shown by the fact that before the end of March the Vermont distributor prepared to close his office; on March 16th the Maine fuel director notified the Governor that the fuel crisis was over; and on the same day the Maryland fuel office closed.

Long before the end of March the Connecticut fuel authorities ceased their activities, and as early as March 9th, Senator McLennan, speaking in the Canadian Parliament at Ottawa, gave high praise to the United States for the fair treatment accorded to Canada by placing that country on an equality with American States so far as coal distribution went. Control of anthracite distribution, therefore, concluded with the coal year on March 31st.

Increasing the Supply of Household Coal.

The increased cost of the prepared sizes of anthracite, due to the increased wages under the Pinchot settlement, has had the effect of stimulating public interest in the smaller sizes of anthracite—buckwheat, rice and barley—as household fuel.

This development has led many persons to the discovery that they can still use the desired anthracite for domestic heating and at the same time hold down their coal bills.

The small sizes, from buckwheat down, are anthracite just as much as stove or chestnut. When properly burned they are efficient, and of course they are just

as clean and smokeless as the large sizes. Scores of buildings in large cities, like Philadelphia for example, are now being heated by one of these sizes, or by a mixture of them. All sorts of buildings are on the list, from private dwellings to great hotels like the Bellevue-Stratford. The small sizes of anthracite constitute 30 per cent and upwards of the total anthracite production, and the unlocking of this coal for domestic use means an important addition to the general supply.

It is good business for every anthracite user, and especially every one contemplating the erection of a new house or the installation of a new heating system, to investigate the cheap and abundant small sizes of anthracite.

To demonstrate this fact, a coal economy exhibit was opened in Philadelphia December 8th under the auspices of the anthracite producers and the manufacturers of various devices and continued during the winter months. Devices for burning small sizes were on display, and demonstrations were given by fuel engineers. Similar exhibitions will be given, under the same auspices, in other large anthracite-consuming centers.

Production and Distribution.

The strike of 1922 had a marked effect in moving anthracite consumers to do their 1923 buying early. Shipments in the first three months of the calendar year were very heavy, aggregating almost 20,000,000 tons.

Of itself this might not be very significant, considering the lack of normal supplies for immediate consumption during that period. But the heavy production continued without a break when the new coal year began in April. The five months, April-August inclusive, showed average shipments of considerably more than 6,000,000 tons and the lowest of these was not 500,000 tons below the highest.

All these shipments were marked shipments to meet demand and not for the purpose of central storage. There is no accurate way to determine the facts, but the records indicate that, to an extent which has never been approached before, anthracite consumers this year laid in all or a large part of the winter's needs between April 1st and September 1st. The sound business advantage of early buying as a benefit to producer, transporter, distributor and consumer has had an unprecedented demonstration.

Census Data on Anthracite.

The Census Bureau issued a statement making some comparisons between conditions in the anthracite region in 1909 and 1919. It is stated that the number of mine workers decreased from 169,000 to 147,000 during the decade, but production last year was 6,302,000 tons greater than in 1909.

The value of coal produced increased from $145,881,000 to $364,243,000, while wages advanced from $92,169,000 to $210,202,000.

Mine operators had an invested capital of $246,713,000 ten years ago, but the properties were estimated to be worth $432,391,000 in 1919. An analysis of the operators' expenses showed that while they paid taxes aggregating $7,969,000 in 1909, the taxes in 1919 were $11,762,000, and their rents and royalties grew during the period from $3,356,000 to $14,066,000.

According to the calculations of a foreign contemporary there are oil bunkering stations in 257 of the 400 leading ports of the world. Of these 113 stations are in the Americas, 77 in Europe, 47 in Asia, 12 in Africa and seven in Australia.

Text of the 1923 Anthracite Wage Agreement.

Here is the full text of the two-year agreement made in September, 1923:

"This agreement, made this eighth day of September, 1923, between Districts 1, 7 and 9, United Mine Workers of America, parties of the first part, and the anthracite operators, parties of the second part, covering wages and conditions of employment in the anthracite coal fields of Pennsylvania, witnesseth:

"The terms and provisions of the award of the Anthracite Coal Strike Commission and subsequent agreements made in modification thereof, or supplemental thereto, as well as the rulings and decisions of the Board of Conciliation, are hereby ratified, confirmed and continued for a further period of two years ending August 31, 1925, except in the following particulars, to wit:

"1. The contract rates at each colliery shall be increased 10 per cent over and above the rates established under the award of the United States Anthracite Coal Commission in 1920.

"2. The hourly, daily or monthly rates of outside and inside company men, working on the basis of an eight-hour day, shall be increased 10 per cent over and above the rates established under the award of the United States Anthracite Coal Commission in 1920.

"3. The hourly, daily or monthly rates of pumpmen and engineers formerly working a twelve-hour cross shift and changed to an eight-hour basis under the award of the United States Anthracite Coal Commission in 1920, shall be increased 10 per cent over and above the rates established by the Board of Concilation in conformity with said award.

"4. The hourly or daily rates of consideration miners and consideration miners' laborers shall be increased 10 per cent over and above the rates established under the award of the United States Anthracite Coal Commission in 1920, said increase to be paid by the operator and miner by adding 10 per cent to the portion of the rate now assumed by each.

"6. Outside and inside company men working on the basis of a day in excess of 10 hours, shall be placed on the basis of an eight-hour day. The rate of pay for an eight-hour day shall be adjusted in the same manner as rates were adjusted for hoisting engineers and pumpmen who were changed from a twelve-hour day to an eight-hour day in 1920, subject to the same increase of 10 per cent provided for other company men under clause 2 hereof.

"7. Outside and inside company men working on the basis of a nine or ten-hour day shall be placed on the basis of an eight-hour day. The rates of pay for the eight-hour day shall be the rates for the nine or ten-hour day paid under the agreement of 1916, plus $1.80 per day for outside employes and $2 per day for inside employes, plus 17 per cent and subject to the same increase of 10 per cent provided for other company men under clause 2 hereof.

"8. Monthly men coming under the agreement of September 2, 1920, and working on a basis in excess of eight hours per day shall be placed on the basis of an eight-hour day. The monthly rates for the eight-hour basis shall be the monthly rates paid under the agreement of May 5, 1916, plus $54 per calendar month for outside employes and $60 per calendar month for inside employes, plus 17 per cent (except where modified by ruling of the Board of Conciliation) and subject to the same increase of 10 per cent provided for other company men under clause 2 hereof.

"9. The colliery rate sheets of the different collieries shall be brought up to date, shall be signed by the company officials and the mine committees, and shall then be filed with the Board of Conciliation. In case of dispute as to the correctness of any rate, the rate shall be determined by the board, after hearing. In such cases, the burden of proof shall rest with the party taking exception to the filed rate.

"10. A grievance referred to the Board of Concilation shall be answered within fifteen days and shall be heard within thirty days from date of filing with the board. Decision shall be rendered by the board, or case shall be referred to an umpire, within thirty days after hearing. In case of a grievance being referred to an umpire, the decision of the umpire shall be rendered within thirty days from date of reference.

"11. Rates for new work, such as opening a seam of coal, shall be made collectively as between the Mine Committee and the company officials on the basis of the standard recognized rates paid for similar work under similar conditions in the mine in question or adjacent mines. In case of disagreement the matter shall be adjusted through the Board of Conciliation in the manner now customary. Pending decision by the board, work shall proceed at rates set by the foreman and which shall not be less than the standard recognized rates aforesaid. No contracts shall be made with individual employes at less than the prescribed scale rates or not in keeping with customary practices. This section shall not be construed to deny to the operator the right to change the method of mining.

"12. The Board of Conciliation is hereby authorized to undertake and complete a thorough study of all wage scales before the expiration of this contract and submit the same to the next joint conference. If the Board of Conciliation shall, by unanimous vote, recommend the adjustment of any inequities or inequalities in wage rates during such study, the adjustment shall take effect on a date set by the board."

Impurities Permitted in Anthracite.

The impurities permitted in coal shipped under the old "65 per cent. contract" are not to exceed the percentages given in the following statement:

	Per Cent. Slate, Rock, Etc.	Per Cent. Bone.
Broken	1	2
Egg	2	2
Stove	4	3
Chestnut	5 to 7*	5
Pea	10	†
Buckwheat	15	†
Rice	20	..

*Average shall not exceed 5 per cent. and maximum shall never exceed 7 per cent.
†Bone content shall not reduce price below average for these sizes.

Coal transported on the Monongahela River in 1922 was 80.6 per cent of the total tonnage carried, and coke 1.2 per cent. On the Allegheny River, coal constituted 24.2 per cent, and on the Ohio coal was 54.8 per cent of the total haul.

DISTRIBUTION OF ANTHRACITE DOMESTIC SIZES

Operators Show Where Bulk of Tonnage Goes to Normally and Explain Rationing State During the Period of Shortage.

During the period of anthracite scarcity early in 1923 the General Policies Committee of the anthracite operators submitted to the U. S. Coal Commission a statement showing the distribution of domestic sizes to the different States during the period September 1, 1921, to March 31, 1922, as follows:

Alabama	2,353	Montana	1,274
Arkansas	522	Nebraska	52,396
California	66	New Hampshire	180,954
Colorado	44	New Jersey	4,689,480
Connecticut	1,637,525	New York	11,848,903
Delaware	211,641	North Carolina	17,189
Dist of Columbia	530,670	North Dakota	96,326
Florida	5,383	Ohio	352,972
Georgia	12,285	Oklahoma	201
Idaho	2	Oregon	98
Illinois	1,780,412	Pennsylvania	7,267,357
Indiana	248,213	Rhode Island	587,877
Iowa	169,746	South Carolina	15,583
Kansas	7,257	South Dakota	96,776
Kentucky	2,996	Tennessee	2,568
Louisiana	9,243	Texas	10,121
Maine	443,582	Vermont	88,463
Maryland	867,344	Virginia	203,531
Massachusetts	3,491,070	Washington	256
Michigan	1,002,665	West Virginia	10,750
Minnesota	758,361	Wisconsin	1,326,979
Mississippi	316	Wyoming	68
Missouri	87,134	Total	38,118,952

The committee had fixed a 60 per cent allotment as the shipments to be made in the fall and winter period as a result of the strike of 1922, and as a matter of fact exceeded the allotment by more than two million tons. The table will be found useful as an indication of the winter requirements of hard coal in the States named.

In like manner the winter shipments of the pre-strike winter to certain cities might be specified as follows:

State	Shipments from Sept., 1921 to Mar. 31, 1922	State	Shipments from Sept., 1921 to Mar. 31, 1922
Portland, Me.	149,613	Newark, N. J.	510,557
Manchester, N. H.	42,587	Harrisburg, Pa.	131,703
Burlington, Vt.	19,634	Wilmington, Del.	133,017
Metropolitan Boston	1,112,537	Baltimore, Md.	546,368
Providence, R. I.	240,552	Washington, D. C.	474,908
Hartford, Conn.	238,955	Richmond, Va.	46,615
New York, N. Y.	6,505,090		

Normal Distribution of Prepared Coal.

The statement says that the principal markets for the domestic sizes of anthracite are the New England and Middle Atlantic States north of the Potomac River, the Northwestern States (Michigan, Minnesota, Wisconsin and North and South Dakota) and the Dominion of Canada. The steam sizes are consumed chiefly in three States—New York, New Jersey and Pennsylvania.

The quantities of the domestic sizes shipped to these groups of States under normal conditions are shown in the following tables, subject to footnote appearing in official statement:

	Shipments 1920-21
New England States.	
Maine	456,097
New Hampshire	192,055
Vermont	75,165
Massachusetts	3,513,980
Rhode Island	504,327
Connecticut	1,663,480
	6,406,104
Middle Atlantic States.	
New York	10,933,139
New Jersey	4,624,488
Pennsylvania	7,005,836
Delaware	212,171
Maryland	962,604
District of Columbia	527,170
Virginia	223,224
	24,488,632
Northwestern States.	
Michigan	1,006,402
Minnesota	830,106
Wisconsin	1,332,611
North Dakota	86,352
South Dakota	101,150
	3,356,621

Note—The figures in this table do not include the production or distribution of the Hudson Coal Co., coal sold to the Federal Government, nor railroad supply coal. They include only domestic sizes which are 70 per cent to 75 per cent of the commercial production and are exclusive of small or steam sizes.

Regarding the probable future course of anthracite production the operators' statement says: "Any material expansion is not to be expected, and the time is not far distant, a few decades at most, when must begin the inevitable period of decline."

Allowances for Undersizing.

Information as to the sizing of anthracite steam coal is not easily obtainable, most of the producers proving uncommunicative when asked to state what their standard of preparation is as regards the permissible percentage of undersizing. There is a recognized standard to the extent that each size is supposed to pass through a screen with a certain mesh, and over a screen with a finer mesh, but there does not seem to be any generally accepted rule as to the amount of undersized coal which each size may legitimately contain.

One of the large independent operators has adopted the following standard:

Pea coal passes over ½-inch screen and 20 per cent undersize is allowed.

No. 1 buckwheat passes over ¼-inch screen and 15 per cent undersize is allowed.

No. 2 buckwheat passes over 3/16-inch screen and 25 per cent undersize is allowed.

No. 3 buckwheat passes over 1/16-inch screen and 15 per cent undersize is allowed.

ANALYSES OF PENNSYLVANIA ANTHRACITE

Elements as Shown by Mine Samples and by Commercial Coal in Various Sizes.

Analyses of anthracite are frequently desired by the trade. As is generally known, producers of this coal do not seek to exploit the constituent elements, as is the case of some producers of bituminous coal, and the amount of material available on this subject is accordingly somewhat limited. In this branch of the trade much depends on the size of the coal, as of course, small coal is bound to carry a larger amount of slate and other impurities, and consequently a greater degree of ash.

There are other circumstances that make analyses less valuable than in the case of bituminous coal, but as a basis at least for investigations along this line we give below certain analyses of the actual coal as shown by mine samples and in addition certain analyses of commercial coal according to sizes.

Analyses of Mine Run Anthracite.

The following figures show certain analyses of Pennsylvania run-of-mine anthracite coal, taken from mine samples in the different fields:

Northern Field.

	Per Cent
Moisture	2.00
Vol. Matter	6.00
Fixed Carbon	84.40
Ash	7.00
Sulphur	0.60

Eastern-Middle Field.

	Per Cent
Moisture	3.90
Vol. Matter	3.10
Fixed Carbon	86.40
Ash	6.00
Sulphur	0.60
Specific Gravity	1.62

Western-Middle Field.

	Per Cent
Moisture	3.30
Vol. Matter	3.80
Fixed Carbon	81.50
Ash	10.65
Sulphur	0.75
Specific Gravity	1.66

Southern Field.

(Panther Creek)

	Per Cent
Moisture	3.00
Vol. Matter	4.00
Fixed Carbon	88.00
Ash	5.00
Sulphur	0.60

Southern Field.

(West Schuylkill)

	Per Cent
Moisture	3.00
Vol. Matter	2.00
Fixed Carbon	85.00
Ash	10.00
Sulphur	0.80

Analyses of Anthracite Sizes.

On following pages are some average analyses of the various anthracite sizes as they appear in Wadleigh's Coal Manual:

Sampled by the United States Bureau of Mines.

Size	Moisture	B. T. U.	As Rec'd B. T. U.	Dry Ash	No. of Analyses
Broken	3.87	12,782	13,928	11.11	12
Egg	4.60	12,658	13,268	11.30	4
Stove	3.81	12,585	13,084	12.05	19
Chestnut	4.80	12,365	12,988	12.48	6
Pea	3.85	12,150	12,637	15.25	119
Buck. No. 1	4.66	11,449	12,009	18.54	49
Buck. No. 2	7.56	11,365	12,295	16.77	18

Range of Analyses of Pennsylvania Anthracite Coal, as Shipped.

Size	Ash Per Ct.	Fixed Carbon Per Ct.	Volatile Matter Per Ct.	Moisture Per Ct.	Sulphur Per Ct.
Broken	7-10	81-84	4 to 6	1 to 2	0.7
Egg	8-11	80-83	4 to 6	1 to 2	0.7
Stove	9–12	79–81	4 to 6	1 to 2	0.7
Chestnut	10-13	77-80	4 to 6	3 to 4	0.7
Pea	13-15	76-78	4 to 6	3 to 4	0.7
Buck. No. 1	16-20	71-75	4 to 6	3 to 4	0.7
Buck. No. 2	18-22	69-73	4 to 6	3 to 4	0.7
Buck. No. 3	20-25	66-71	4 to 6	4 to 6	0.7

Anthracite Coal Shipments by Regions.

The shipments of anthracite coal from the various regions for years 1908-1922 have been as follows:

	Schuylkill	Lehigh	Wyoming	Total
1908	18,006,464	7,786,255	38,372,295	64,665,014
1909	16,864,147	7,532,271	37,573,467	61,969,885
1910	17,845,020	8,627,539	38,433,227	64,905,786
1911	19,375,369	9,775,018	40,805,912	69,954,299
1912	18,013,406	8,571,861	37,025,311	63,610,578
1913	19,338,870	9,342,583	40,388,175	69,069,628
1914	18,494,687	9,087,111	40,760,803	68,342,601
1915	18,039,888	10,304,652	39,539,236	67,883,776
1916	19,888,310	9,654,000	37,834,054	67,376,364
1917	22,715,086	11,255,490	43,162,729	77,133,305
1918	22,755,365	11,511,760	42,382,793	76,649,918
1919	19,899,519	10,266,479	36,689,313	66,855,311
1920	21,517,211	9,860,611	37,249,303	68,627,125
1921	20,184,799	8,910,348	38,522,566	67,617,713
1922	12,963,674	5,565,532	22,286,566	40,875,772

Shipments from the Wyoming region as compared with 1921 decreased 16,236,000 tons, or 42.1 per cent; the Lehigh region decreased 3,344,816 tons, or 37.5 per cent, while the Schuylkill region decreased its shipments 7,221,125 tons, or 35.7 per cent, according to the above statistics.

STEADY DAYS IN ANTHRACITE

Private Initiative Fixed Price at Fair, Even Figure for a Decade.

In the midst of criticism of anthracite prices at the present time, it will be well to remember that for many years, while the reduced purchasing power of money was causing commodity prices to advance on a steadily increasing scale, anthracite prices were unchanged.

For nine years there was no change in the price of stove coal. Then there was an increase of 25 cents. The next year the anthracite tax law of 1913 added 10 cents. During the two following years there was no change.

So that in a period of 13 years the price increased only 35 cents. It was not until the country entered upon war conditions that any substantial increase occurred.

Reference to the details in the following material from an authentic source will be found useful:

Tidewater Prices, White Ash Anthracite.

Year	Broken	Egg	Stove	Nut
1902	$4.75	$5.00	$5.00	$5.00
1903	No change			
1904	No change			
1905	No change			
1906	No change			
1907	No change			
1908	No change			
1909	No change			
1910	No change			
1911	No change			5.25
1912	5.00	5.25	5.25	5.50
1913	Tax law added 10 cents			
1914	No change			
1915	No change			
1916	4.90	5.40	5.65	5.70
1917	6.40	6.30	6.55	6.65

At one time upwards of 95 per cent of the anthracite tonnage was sold at the above circular prices, the large transportation interests buying coal from individual operators under the so-called percentage contracts. These were, after extended litigation, declared illegal by the U. S. Supreme Court in all except a very few instances where special terms prevailed. But, in view of the decision, even those contracts were allowed to lapse at date of expiration. As one reviews the situation it must be manifest that the public was being well served in regard to its hard coal supplies in the period 1902-1917.

The output of the coal mines of Cape Breton amounted to 4,833,692 gross tons during 1923 as compared with 4,156,728 tons in 1922.

Girard Estate Production and Shipments.

The 1923 report of James Archbald, mining engineer and agent of the Girard Estate, shows that, counting pea as small coal, the shipments of large and small coal from the operations on the Girard Estate have been as follows:

	Large Coal.		Small Coal.	
	Tons.	Per Cent.	Tons.	Per Cent.
1923	1,958,306	54.70	1,621,995	45.30
1922	1,108,794	54.08	941,464	45.92
1921	1,753,721	58.78	1,230,002	41.22
1920	1,785,578	55.26	1,445,502	44.74
1916	1,480,829	54.48	1,237,283	45.52
1915	1,145,941	58.42	815,622	41.58
1910	1,096,574	58.37	782,056	41.63
1905	1,068,540	58.62	754,358	41.38
1900	627,093	57.41	465,263	42.59
1895	1,056,653	70.95	432,705	29.05
1890	1,042,215	79.37	270,881	20.63
1885	919,138	80.55	221,996	19.45
1880	1,104,097	88.21	147,588	11.79
1875	644,557	91.48	59,987	8.52
1870	455,168	96.43	16,830	3.57
1865	240,466	100.00	.....	.....
1863	40,789	100.00	.....	.....

Excluding the coal reclaimed from culm banks, the proportions of large and small coal have been as follows:

	Large Coal.		Small Coal.	
	Tons.	Per Cent.	Tons.	Per Cent.
1923	1,775,369	61.01	1,134,356	38.99
1922	1,023,936	60.03	681,714	39.97
1921	1,666,601	63.40	962,035	36.60
1920	1,610,518	63,63	920,507	36.37
1916	1,427,267	58.99	992,135	41.01
1915	1,125,503	61.46	705,652	38.54
1910	1,080,600	63.61	618,188	36.39
1905	1,054,403	62.99	619,588	37.01
1900	625,422	63.31	362,227	36.69
1897	852,895	70.71	353,213	29.29

Tonnages for 1900 and 1922 curtailed by strikes.

Coal Reclaimed from Culm Banks.

Year.	Tons.	Cwt.	Per Cent of Total Shipment.	Year.	Tons.	Cwt.	Per Cent of Total Shipment.
1889–1900	194,023	16	1.22	1917	532,979	16	16.29
1901–1910	2.178,147	02	13.39	1918	632,414	08	18.85
1911	353,665	08	16.36	1919	498,973	10	18.43
1913	204,152	08	10.32	1920	700,055	03	21.67
1914	168,187	..	8.84	1921	355,086	19	11.90
1915	130,408	08	6.65	1922	344,607	19	16.81
1916	298,709	10	10.99	1923	670,576	10	18.73

Anthracite Shipped in 1922 by Regions and Sizes.

Size	Lehigh Region			Schuylkill Region		
	Mines	Washeries	Dredges	Mines	Washeries	Dredges
Lump	.....	.....	.....	4,151	.....	.....
Broken	95,624	870	.....	388,775	3,805	.....
Egg	676,811	5,756	.....	1,244,818	5,347	.....
Stove	1,001,658	3,821	.....	2,202,377	9,690	.....
Chestnut	1,349,259	47,902	.....	2,754,717	126,935	.....
Pea	602,358	19,734	979	977,718	211,724	487
Buckwheat No. 1	782,840	22,618	2,210	1,782,928	417,811	1,368
Buck. No. 2 and Rice	415,009	22,329	111	689,348	259,696	30,220
Buck. No. 3 and Barley	358,097	103,682	26,547	858,334	443,401	89,937
Boiler	13,776	.....	61,281	22,039	1,638	33,405
Other *c*	37,840	15,721	.....	105,643	66,648	274,073
Total	5,333,272	242,433	91,128	11,030,848	1,546,695	429,490

(a) Includes 579,898 tons of "range" coal, valued at $5,288,017, reported by 8 operators.
(b) Includes 581,557 tons of "birdseye" coal, valued at $1,342,528, reported by 11 operators.
(c) Includes run of mine, silt, culm, #4 buckwheat, and screenings.

Size	Wyoming Region			Sullivan Co.	Total	Per cent of total
	Mines	Washeries	Dredges	Mines		
Lump	.....	.....	....	.....	4,151	...
Broken	1,139,319	2,072	....	8,809	1,639,274	4.0
Egg	3,533,052	7,794	....	13,453	5,487,031	13.4
Stove	4,929,689	25,162	....	20,910	8,193,307	19.9
Chestnut	5,650,905	123,890	....	32,352	*a*10,085,960	24.6
Pea	1,368,144	75,726	2,131	19,135	3,278,136	8.0
Buckwheat No. 1	2,381,500	143,835	2,485	.....	5,537,595	13.5
Buck. No. 2 and Rice	1,378,857	179,421	1,296	.....	*b*2,976,287	7.2
Buck. No. 3 and Barley	745,350	216,527	....	.....	2,841,875	6.9
Boiler	92,757	6,297	40,324	.....	271,517	.7
Other *c*	112,331	30,629	....	115,820	758,705	.18
Totals	21,331,904	811,353	46,236	210,479	41,073,838	100.0

British Columbia Output 1923.

Coal production in British Columbia in 1923 was 2,543,675 tons, against 2,580,915 tons for the previous year, a decrease of 37,240 tons. To arrive at the net output for the year it is necessary to take 87,834 tons from the figure given, as approximately that amount was used in the manufacture of coke or lost as waste. Thus it is found that the net production was 2,455,841 tons, in comparison with a net output for 1922 of 2,511,843 tons. The manufacture of coke increased from 45,836 to 58,000 tons.

The output during 1922 and 1923 was:

	1922	1923		1922	1923
Vancouver Island	1,754,656	1,551,926	Telkwa Mines	1,008	316
Nicola-Princeton	270,890	246,865			
Crow's Nest Pass	554,361	744,568	Totals	2,580,915	2,543,675

Anthracite Produced in 1922—By Regions (Gross Tons).

	Shipments	Local Sales	Used for Power	Total Production
LEHIGH:				
Freshly mined coal	5,333,272	348,880	686,948	6,369,100
Washery product	242,433	6,457	7,019	255,909
Dredge product	91,128	.....	.....	91,128
	5,666,833	355,337	693,967	6,716,137
SCHUYLKILL:				
Freshly mined coal	11,030,848	407,903	2,294,653	13,733,404
Washery product	1,546,695	2,823	106,061	1,655,579
Dredge product	429,490	232,780	5,739	668,009
	13,007,033	643,506	2,406,453	16,056,992
WYOMING:				
Freshly mined coal	21,331,904	1,099,040	2,292,100	24,723,044
Washery product	811,353	17,069	203,376	1,031,798
Dredge product	46,236	1,866	.....	48,102
	22,189,493	1,117,975	2,495,476	25,802,944
SULLIVAN COUNTY:				
Freshly mined coal	210,479	6,575	31,000	248,054
Total freshly mined.....	37,906,503	1,862,398	5,304,701	45,073,602
Total washery product.....	2,600,481	26,349	316,456	2,943,286
Total dredge product	566,854	234,646	5,739	807,239
GRAND TOTAL	41,073,838	2,123,393	5,626,896	48,824,127

Shipments of Anthracite According to Sizes.

Size	1911	1912	1913	1914	1915	1916
Lump	530,999	418,601	362,714	180,516	115,348	119,562
Broken	3,632,090	3,743,269	3,489,779	3,547,117	3,349,933	3,543,326
Egg	8,464,265	8,883,118	8,928,792	8,718,809	8,117,340	8,487,032
Stove	13,062,892	11,756,604	13,841,777	14,505,502	14,061,069	13,598,796
Chestnut	16,037,735	14,497,370	17,065,632	16,224,892	15,570,013	14,998,499
Pea	8,282,049	7,138,141	8,142,571	8,277,619	8,210,669	7,520,804
Buckwheat ..	9,836,638	8,697,584	9,504,161	9,459,788	9,322,533	9,569,817
Smaller*	10,577,439	9,532,562	9,422,886	9,549,803	9,919,552	9,663,527
Total gr. tons	70,424,197	64,667,249	70,758,312	70,464,046	68,666,456	67,501,363

Size	1917	1918	1919	1920	1921	1922
Lump	154,597	133,529	26,855	33,324	12,330	4,151
Broken	4,531,889	4,750,320	2,861,611	3,301,578	2,474,690	1,639,274
Egg	10,431,455	10,279,963	9,701,195	9,941,584	10,239,859	5,487,031
Stove	14,324,505	13,422,950	13,354,488	12,380,630	14,687,638	8,193,307
Chestnut	17,753,449	17,408,141	17,405,402	17,327,540	18,636,682	10,085,960
Pea	6,824,003	6,471,381	6,237,398	5,457,588	5,865,379	3,278,136
Buckwheat ..	11,659,176	10,800,796	8,574,852	9,167,934	9,349,009	5,537,595
Smaller*	11,810,969	13,454,077	4,810,494	11,000,585	8,288,976	6,848,384
Total gr. tons	77,490,043	76,721,157	67,972,295	68,610,763	69,554,563	41,073,838

*Includes rice, barley, boiler, culm, buck No. 4, screenings, etc., and coal from Sullivan County.

THE RISE IN PRICES

How Government Officials Have Increased the Cost of Anthracite.

At the Coal Economy Show in New York there is displayed a very interesting placard of ample size showing the difference in prices of hard coal at the mines (stove size) throughout the period that has elapsed since the formation of the wage agreement under the auspices of the Roosevelt Strike Commission in 1903. We present the text of the placard below:

INDIVIDUAL AGREEMENTS

Versus

GOVERNMENTAL WAGE FIXING

As Reflected by Anthracite Prices.

From 1903 to 1917, inclusive, Anthracite mines were under control of their owners who made wage agreements with their employes and named the resultant prices of their product.

Beginning with 1917 all wage agreements in the Anthracite industry have been dictated by officials of the United States Government, except that of 1923, which was "arranged" by Governor Pinchot.

The course of Anthracite prices at the mines under private and official control is shown in the following tabulations of stove coal prices of one of the largest producing companies, indicating the general trend of the market:

	1903	$3.75	.50 off in April.
	1904	"	" " " "
	1905	"	" " " "
	1906	"	" " " "
	1907	"	" " " "
	1908	"	" " " "
	1909	"	" " " "
	1910	"	" " " "
	1911	"	" " " "
April	1912	$4.00	" " " "
	1913	"	" " " "
	1914	"	" " " "
	1915	"	" " " "
	1916	"	" " " "
May	1916	$4.40	Increase of wage rates by agreement of May 5, 1916.
	1917	$4.70	.40 off in May.
			U. S. Fuel Administration:
Dec.	**1917**	**$5.05**	Price fixed by Executive Order of November 28, 1917.
Nov.	**1918**	**6.10**	Executive Order of November 1918 effective Nov. 1.
Oct.	**1919**	**6.10**	Increased price $1.05 to cover wage increase.
Nov.	**1919**	**6.60**	Fifty cents increase recommended by Dr. Garfield.
May	**1920**	**7.45**	Award by Wilson Commission retroactive to April 1 increasing wage 17.4 per cent—increase added gradually over several months.
Oct.	**1920**	**7.95**	
Jan.	**1921**	**8.05**	

Apr.	1921	7.55	April Reduction of 50 cents.
May	1921	7.70	
June	1921	7.80	
July	1921	7.90	
Aug.	1921	8.00	
Sept.	1921	8.10	
Mar.	1922	8.10	
			General Strike began April 1, 1922—operation resumed September 11.
Sept.	1922	$8.20	Approval by Pennsylvania Fuel Commission and Federal Fuel Distributor—Pennsylvania State tonnage tax added to cost.
Dec.	1922	8.30	
	1923	8.30	
			Strike September 1, 1923, to September 18, inclusive.
Sept.	1923	$9.15	Settlement of Strike by Governor Pinchot increased mining cost at different operations 75 cents to $1.00 per ton.
Oct.	1923	9.15	
Nov.	1923	9.15	
Dec.	1923	9.15	

Light figures indicate individual control.
Heavy figures indicate government wage fixing.

There has indeed been a change in the past seven years.

Population Growing in Anthracite Consuming States.

When the pressure of demand for anthracite became pronounced in 1917 and 1918 various statements were made with reference to increased population in the Northeastern section of our country being responsible for a considerable part of the demand. In fact, it was asserted on the authority of the office of the Provost Marshal General in connection with the application of the selective draft law that there had been an increase in population of nearly 5,000,000 in the states of the Northeast where large war industries were located as compared with the figures of 1910.

A more substantial basis is given to the assertions made by the census figures of 1920 which give the actualities of this record. And, while the number is nearer four million than five it will be seen that the states of the Northeastern section where anthracite is particularly the domestic fuel, have grown much in the last ten years and as is well known the increase in population is largely centered in the industrial cities and towns, the agricultural districts and smaller communities remaining practically at a standstill, if indeed they have not shown a decrease in population.

	1910.	1920.		1910.	1920.
Connecticut	1,114,756	1,380,385	New Jersey	2,537,167	3,155,374
Delaware	202,322	223,003	New York	9,113,614	10,384,144
Dist. of Columbia.	331,069	437,571	Pennsylvania	7,665,111	8,720,159
Maine	742,371	767,996	Rhode Island	595,986	604,379
Maryland	1,295,346	1,449,610	Vermont	355,956	352,421
Massachusetts	3,693,310	3,851,615	Totals	28,977,580	31,771,740
New Hampshire	430,572	443,083	Total increase		3,694,160

Standard Sizes and Preparation of Anthracite.

The following dimensions specified indicate meshes for screening anthracite coal:

It is understood that there are no square mesh screens now used in the sizing of anthracite and while it cannot be said that there is any actual standard, if we use that word in a strict sense, the following dimensions are generally supposed to prevail:

	Through	Over
Broken	4½" round	3⅛" round
Egg	3¼" "	2¼" to 2⅝" "
Stove	2¼" to 2⅜" "	1½" to 1⅝" "
Nut	1½" to 1⅝" "	¾" to ⅞" "
Pea	¾" to ⅞" "	½" to 9/16" "
Buckwheat	½" to 9/16" "	5/16" "
Rice	5/16" "	3/16" "
Barley	3/16" "	1/16" "

The percentages of foreign matter allowed are as follows:

Size	State	Bone
Broken (or Grate)	1 per cent.	2 per cent.
Egg	2 per cent.	2 per cent.
Stove	4 per cent.	3 per cent.
*Chestnut	5 to 7 per cent.	5 per cent.
Pea	8 per cent.	10 per cent.
Buckwheat	10 per cent.	10 per cent.

*An allowance is made on chestnut of from 12½ to 15 per cent of pea coal.

With regard to the sizing of anthracite, it is understood that the Fuel Administration set the following standard which operators were supposed to live up to at that time:

Egg coal may contain not over 12 per cent broken and 15 per cent stove.

Stove, 12 per cent of egg and 15 per cent of chestnut.

Chestnut, 5 per cent of stove and 15 per cent of pea.

Pea, 5 per cent of chestnut and 30 per cent of smaller sizes, the latter not to include more than 3 per cent of No. 2 buckwheat.

It will be seen that the Fuel Administration allowed the operators more leeway; establishing a more liberal policy than had prevailed.

Sizes are used, chiefly, for following purposes:

Broken—Gas-making, other manufacture, and steam-raising.

Egg—Domestic furnaces and open grates.

Stove—Kitchen ranges, base burners (sometimes mixed with chestnut), small furnaces, open grates.

Chestnut—Kitchen ranges, small stoves, base burners (sometimes mixed with stove), and small open grates.

Pea—Domestic furnaces with small openings in grate, kitchen ranges, and "banking" fires.

Buckwheat No. 1—Steam-making and self-feeding domestic furnaces.

Rice—Steam-making.

Barley—Steam-making.

ANTHRACITE SHIPMENTS BY RAILROADS

Philadelphia & Reading.

Month	1918	1919	1920	1921	1922	1923
January	932,146	1,155,803	1,155,092	1,172,873	1,052,072	1,381,359
February ...	1,107,982	725,809	1,038,303	1,170,753	1,160,685	1,206,538
March	1,339,051	617,229	‡1,295,221	1,018,858	1,372,024	1,370,476
April	1,233,512	1,044,192	1,055,190	1,123,585	*.....	1,170,925
May	1,356,878	1,156,119	1,298,295	1,108,476	*.....	1,152,026
June	1,345,079	1,084,635	1,165,339	1,157,738	*.....	1,165,468
July	1,420,624	1,131,451	1,251,791	1,039,078	*.....	1,155,701
August	1,408,501	1,142,714	1,401,849	1,116,844	*.....	1,277,770
September ..	1,231,435	1,140,727	537,176	1,081,085	926,516	420,859
October	1,115,340	1,240,001	1,317,070	1,104,828	1,266,092	1,205,425
November ..	1,137,170	1,358,643	1,238,994	1,017,409	1,224,990	1,038,340
December ...	1,209,677	1,442,571	1,324,004	985,262	1,259,927	‡1,244,288
Total gross.	14,837,395	12,289,893	14,078,324	13,696,789	8,263,106	13,789,175

Lehigh Valley.

Month	1918	1919	1920	1921	1922	1923
January	983,964	1,048,173	1,011,116	1,058,127	766,602	1,093,052
February ...	1,042,784	643,551	928,208	1,063,508	857,579	1,097,351
March	1,355,933	622,746	‡1,125,100	1,022,714	1,220,563	1,279,599
April	1,175,027	865,924	898,929	1,102,965	*.....	1,088,783
May	1,328,464	1,030,160	1,130,707	1,027,688	*.....	1,150,037
June	1,352,820	1,041,696	1,150,977	1,069,521	*.....	1,188,497
July	1,319,731	1,111,420	1,217,642	946,387	*.....	1,124,400
August	1,350,331	1,171,026	1,159,816	924,649	*.....	1,154,004
September ..	1,167,784	1,122,823	534,440	‡966,600	950,769	372,997
October	1,216,391	1,209,341	1,180,270	1,048,996	1,166,195	1,174,768
November ...	973,865	1,079,266	1,002,329	913,737	1,109,449	1,006,983
December ...	1,010,231	1,057,627	1,161,305	801,796	1,107,745	‡1,027,740
Total gross.	14,287,325	12,003,687	12,500,839	11,956,688	7,178,902	12,758,211

Jersey Central.

Month	1918	1919	1920	1921	1922	1923
January	612,979	479,990	513,444	470,704	542,558	588,093
February ...	638,557	334,697	408,452	515,551	537,214	521,430
March	777,642	309,994	‡480,100	540,556	654,679	622,710
April	649,621	481,781	305,465	537,822	*.....	508,683
May	566,974	498,391	483,352	544,716	*.....	538,386
June	622,005	508,702	525,662	571,213	*.....	563,304
July	641,547	544,171	536,419	507,942	*.....	494,254
August	644,186	560,331	510,593	544,007	*.....	496,725
September ..	571,147	551,724	348,978	576,875	345,447	154,200
October	601,180	639,824	486,609	570,189	617,668	564,471
November ..	450,360	506,737	453,139	512,613	583,835	493,915
December ...	469,087	506,840	497,735	532,597	564,071	‡514,066
Total gross.	7,245,276	5,941,412	5,549,948	5,424,785	3,845,672	6,060,237

‡Estimated. *Strike.

Delaware, Lackawanna & Western.

Month	1918	1919	1920	1921	1922	1923
January	1,029,977	934,369	935,242	910,260	744,768	1,038,719
February ...	997,550	597,604	827,172	920,788	755,923	957,612
March	1,155,587	658,694	‡840,100	1,020,381	1,047,622	1,146,217
April	1,008,018	885,215	545,419	929,271	*.....	906,203
May	1,037,603	914,301	844,464	915,191	*.....	985,035
June	1,015,438	903,306	891,481	1,009,119	*.....	1,009,505
July	1,034,561	980,100	908,538	926,850	.....	965,446
August	1,048,346	936,212	878,222	953,014	*.....	1,004,507
September ..	927,608	758,940	642,016	736,571	560,717	318,182
October	982,966	963,618	846,054	759,492	936,375	1,017,231
November ...	776,506	860,356	792,157	814,131	896,182	937,222
December ...	870,509	907,119	940,915	626,327	930,530	‡855,080
Total gross.	11,884,669	10,299,834	9,891,780	10,513,778	5,880,117	11,140,959

Delaware & Hudson.

Month	1918	1919	1920	1921	1922	1923
January	636,875	717,045	614,375	814,491	619,762	741,739
February ...	600,799	629,929	455,003	813,191	670,323	629,514
March	861,253	671,829	‡840,100	837,644	909,261	907,099
April	771,553	603,479	833,254	812,967	*.....	851,960
May	825,990	667,227	845,033	753,039	*.....	892,471
June	773,691	661,991	901,325	763,893	*.....	961,703
July	820,530	731,385	833,254	691,132	*.....	879,772
August	846,788	716,333	845,033	756,982	*.....	943,143
September ..	736,497	553,149	901,325	711,199	533,858	298,775
October	739,495	797,041	893,058	898,376	828,216	861,705
November ...	624,335	663,782	814,167	756,598	876,861	820,301
December ...	676,878	674,172	896,475	654,987	832,893	‡747,063
Total gross.	8,914,684	8,087,362	9,670,402	8,264,499	5,271,174	9,535,305

Pennsylvania.

Month	1918	1919	1920	1921	1922	1923
January	458,408	442,059	404,375	451,879	331,871	596,989
February	459,271	273,031	394,366	426,350	402,762	483,466
March	519,806	338,977	‡425,100	333,687	523,273	542,167
April	448,374	383,250	408,490	416,847	*.....	527,139
May	493,380	401,918	438,144	409,027	*.....	618,096
June	482,737	372,658	497,153	441,693	*.....	556,291
July	504,630	433,517	408,490	384,780	*.....	520,423
August	504,367	438,214	438,144	360,817	*.....	555,064
September ...	438,068	431,514	497,953	426,344	382,007	196,839
October	393,885	465,544	484,940	492,632	579,306	576,345
November ...	364,193	406,606	424,745	429,638	546,214	509,457
December ...	870,509	414,155	457,242	307,520	561,603	‡522,098
Total gross.	5,518,207	4,801,453	5,519,042	4,881,114	3,327,036	6,204,974

‡Estimated. *Strike.

Erie.

Month	1918	1919	1920	1921	1922	1923
January	632,332	687,241	636,430	606,602	466,495	750,277
February	614,210	371,033	491,608	633,706	492,262	712,210
March	864,968	451,572	‡630,000	561,013	654,492	818,817
April	695,186	581,453	346,144	630,471	*.....	647,707
May	761,436	621,326	643,930	630,574	*.....	721,756
June	756,257	616,939	710,212	555,882	*.....	690,172
July	824,242	663,421	547,919	619,365	*.....	661,120
August	847,169	678,437	358,740	628,280	*.....	759,711
September ...	703,363	640,444	285,074	631,882	497,841	251,277
October	731,694	698,613	531,598	618,034	701,270	707,076
November ...	554,026	620,703	603,766	503,488	706,747	623,101
December ...	656,689	679,827	675,979	450,465	738,073	‡640,206
Total gross.	8,641,582	7,311,009	6,461,400	7,069,862	4,257,180	7,983,430

N. Y., O. & W.

Month	1918	1919	1920	1921	1922	1923
January	171,667	156,328	168,447	156,564	101,779	178,072
February	177,047	108,029	135,957	153,017	141,929	169,176
March	199,680	88,116	‡165,000	144,930	154,681	192,247
April	185,650	144,856	160,306	128,684	*.....	146,985
May	177,072	167,403	173,913	153,809	*.....	159,043
June	186,948	167,327	176,604	165,742	*.....	162,353
July	167,656	176,524	177,427	110,605	*.....	152,543
August	170,313	182,450	177,451	98,355	*.....	154,586
September ...	157,387	176,492	149,260	123,742	128,847	61,229
October	165,205	187,926	190,958	126,925	179,865	174,707
November ...	124,700	161,385	175,074	136,945	161,660	153,075
December ...	150,063	171,465	154,557	107,107	159,829	‡150,604
Total gross.	2,033,388	1,882,601	2,014,654	1,604,425	1,028,590	1,854,620

Lehigh & New England.

Month	1918	1919	1920	1921	1922	1923
January	268,364	295,233	274,970	99,038	221,346	303,522
February	286,147	188,249	234,995	269,237	220,337	174,416
March	356,888	129,751	‡277,100	257,988	242,072	304,186
April	322,167	234,565	261,014	284,453	*.....	325,389
May	339,459	254,940	298,040	251,375	*.....	347,435
June	332,694	262,337	300,400	299,136	*.....	337,494
July	351,254	280,345	295,341	236,621	*.....	306,394
August	360,922	318,428	290,470	192,167	*.....	327,345
September ...	306,106	311,588	116,310	265,114	181,550	120,582
October	340,210	358,138	310,344	253,311	292,941	282,798
November ...	271,504	314,193	260,976	229,455	314,164	246,360
December ...	277,038	284,684	318,508	169,811	292,205	‡268,499
Total gross.	†3,812,753	3,232,450	3,238,468	2,809,006	1,754,615	3,343,370

†Included in the above yearly total is: 475,300 in 1918 transferred by this company to the Central R.R. of New Jersey, at Hauto, Pa., and included in similar report of the latter company. ‡Estimated. *Strike.

Shipments of Anthracite Coal, by Months.

The shipments of anthracite coal by months for six years have been as follows:

Month	1918	1919	1920	1921	1922	1923
January	5,726,712	5,934,231	5,868,835	5,740,538	4,848,053	6,671,822
February	5,812,082	3,871,932	5,046,483	5,966,101	5,239,014	5,951,713
March	7,276,777	3,938,908	†6,077,821	5,737,771	6,778,667	7,183,518
April	6,368,373	5,224,715	4,814,211	5,967,465	.....	6,173,774
May	6,887,256	5,711,915	6,155,875	5,793,895	.....	6,564,285
June	6,867,669	5,619,591	6,319,957	6,031,937	.....	6,634,787
July	7,084,775	6,052,334	6,389,100	5,462,760	.....	6,260,053
August	7,180,923	6,144,144	6,207,653	5,575,115	.....	6,672,855
September	6,234,395	6,687,401	3,592,954	5,519,412	‡4,507,132	2,194,940
October	6,296,366	6,560,150	6,240,901	5,872,783	6,567,928	6,564,526
November	5,276,659	5,971,671	5,765,347	5,314,014	6,420,102	5,828,754
December	5,736,260	6,138,460	6,436,320	4,635,922	6,454,876	†5,969,594
Total	76,649,918	66,855,462	68,915,460	67,617,713	40,815,777	72,668,621

†Estimated.
‡Includes scattering shipments in April of coal mined latter part of March.

No shipments in April, May, June, July and August, 1922 on account of strike.

Anthracite Record Months.

The record of large monthly tonnages runs as follows:

Jan., 1923.....6,671,822	May, 1917.....6,917,525	Sept., 1917.....6,372,756
Feb., 1921.....5,966,101	June, 1917.....7,049,037	Oct., 1917.....7,110,950
Mar., 1918.....7,276,777	July, 1918.....7,084,775	Nov., 1917.....6,545,313
Apr., 1915.....6,665,625	Aug., 1918.....7,189,923	Dec., 1922.....6,454,876

There is no high record month back of April, 1915.

Shipments Tell Trade Story.

The U. S. Geological Survey presents certain statements in net tons showing total monthly production of anthracite but it occurs to us that the trade is so accustomed to tabulations showing the shipments of coal in gross tons that the publication of these other details serves merely to confuse. Of course the shipments rise and fall more or less in proportion to the production (although not precisely so) and yet it seems to us that it is much more advantageous to restrict the comparative monthly statements to the customary form of shipments in gross tons and thus avoid the confusion which is practically certain to arise when statements are presented which differ by something like 25 per cent from the information that the trade is accustomed to.

As a matter of record, we present the Survey figures below:

Production during the year 1913 amounted to 91,525,000 tons; 1914, 90,822,000 tons; 1915, 88,995,000 tons; 1916, 87,578,000 tons; 1917, 99,612,000 tons; 1918 98,826,000 tons; 1919, 88,092,000 tons; 1920, 89,598,249; 1921, 87,500,000.

Total tonnage of coal shipped over the Port Richmond piers of the Philadelphia & Reading Ry. amounted to 3,573,408 tons during 1923.

TRADE NAMES OF ANTHRACITE COAL

The Geological Field, Character of Coal, Mining Districts and Trade Names of Coal Coming from Each District Is Given Below.

Geological Field	Character of Coal	Mining District	Trade District
		1 Carbondale	Wyoming
	Free-Burning White-ash	2 Scranton	"
Northern	Wyoming Red-ash	3 Pittston	"
		4 Wilkes-Barre	"
		5 Plymouth	"
		6 Green Mountain	Lehigh
Eastern Middle...	Hard White-ash	7 Black Creek	"
	Lehigh Red-ash	8 Hazleton	"
		9 Beaver Meadow	"
	Hard White-ash	10 East Mahanoy	Schuylkill
Western Middle...	Free-Burning White-ash.	11 West Mahanoy	"
	Shamokin		
	Trevorton	12 Shamokin	"
	Schuylkill Red-ash.....	13 Panther Creek	Lehigh
Southern	Hard White-ash	14 East Schuylkill.....	Schuylkill
	Free-Burning White-ash.	15 West Scmuylkill....	"
	Lorberry Red-ash	16 Lorberry	"
	Lykens Valley Red-ash..	17 Lykens Valley	"

Tidewater (Piers) Bituminous Prices, 1923.

New York.

	Jan.	Feb.	March	April	May	June
Pool 9...	$8.25–$8.75	$7.25–$7.50	$6.75–$7.25	$6.25–$6.65	$5.75–$6.00	$5.50–$6.00
10...	7.75– 8.00	6.50– 7.00	6.00– 6.40	5.50– 6.00	4.90– 5.50	4.75– 5.00
11...	7.25– 7.50	5.75– 6.25	5.25– 5.75	4.50– 5.50	4.00– 4.75	4.00– 4.75
	July	Aug.	Sept.	Oct.	Nov.	Dec.
Pool 9...	$5.50–$6.00	$5.35–$5.75	$5.25–$5.60	$4.95–$5.35	$4.75–$5.00	$5.00–$5.25
10...	5.00– 5.35	5.00– 5.25	4.85– 5.10	4.50– 4.90	4.40– 4.75	4.75– 5.00
11...	4.30– 5.00	4.65– 4.85	4.50– 4.75	4.25– 4.60	4.25– 4.50	4.50– 4.80

Philadelphia.

	Jan.	Feb.	March	April	May	June
Pool 9...	$8.50–$9.00	$7.00–$7.25	$7.00–$7.40	$6.35–$6.80	$6.15–$6.60	$5.45–$5.85
10...	7.90– 8.15	6.50– 6.75	6.25– 6.50	5.45– 5.85	5.20– 5.60	4.55– 5.25
11...	7.30– 7.65	5.65– 6.16	5.25– 5.70	4.50– 4.90	4.20– 4.60	3.75– 4.40
	July	Aug.	Sept.	Oct.	Nov.	Dec.
Pool 9...	$5.30–$5.75	$5.30–$5.70	$5.30–$5.75	$5.30–$5.50	$4.90–$5.05	$4.90–$5.20
10...	4.45– 5.25	4.55– 5.30	4.65– 5.30	4.50– 5.05	4.00– 4.65	4.50– 4.90
11...	3.75– 4.35	4.15– 4.75	4.35– 4.80	4.25– 4.60	3.95– 4.00	4.25– 4.60

Pennsylvania Anthracite.

The anthracite coal fields of Pennsylvania are located in the easterly portion of the State, chiefly in Lackawanna, Luzerne, Carbon, Columbia, Northumberland and Schuylkill Counties. The fields are divided into four sections geologically: the Northern, the Eastern Middle, the Western Middle and the Southern. They are divided into three great trade regions: the Wyoming in the north, the Lehigh in the central portion and the Schuylkill in the southerly portion of the territory. These regions are in turn divided into 17 mining districts as follows:

Carbondale	Plymouth	Beaver Meadow	Panther Creek
Scranton	Green Mountain	East Mahanoy	East Schuylkill
Pittston	Black Creek	West Mahanoy	West Schuylkill
Wilkes-Barre	Hazelton	Shamokin	Lorberry
		Lykens Valley	

While the coal fields are of very limited extent compared with the great bituminous deposits of Pennsylvania, to say nothing of the coal deposits of the country in general, they are of great value not only by reason of the quality of the coal contained therein, but by reason of their proximity to the great centers of population where this particular fuel is most acceptable and serviceable.

The anthracite coal fields having been developed first 100 years ago, having been explored in minute detail and having been developed and operated by many important interests, have been described so often that they have, in fact, produced one might say, a literature of their own. Particularly exhaustive have been the facts brought forth by various investigations and inquiries of past years under the authority of Congress, executive departments and boards, the Legislatures of Pennsylvania and New York and other public bodies.

Probably no fact stands out more prominently now in view of the records of past years than the important feature that hard coal was furnished to the public at a very low cost during a long term of years, as the duly authorized selling prices of the recent past plainly demonstrate.

Statistics of production are available from 1807, but the customary amount referred to in the trade as the initial shipments is 365 gross tons in 1820. From that time on rapid progress was made despite many vicissitudes, the industry forging ahead more rapidly than coal mining advanced in other sections. It passed the 100,000 mark in 1829; the million mark in 1837, and the two million mark in 1844. Prior to this time the production of anthracite was practically the only mining carried on in a large way aside from the activities in Virginia. In 1850 the production exceeded 4,000,000 tons; in 1860, 8,000,000 tons; in 1870, 15,000,000 tons; in 1880, 28,000,000 tons, thus, it will be seen, nearly doubling every ten years. From that time on the growth was slower. In 1890 the output was 46,000,000 tons; in 1900, 57,000,000 tons; in 1910, 84,000,000 tons, and in 1920, 88,000,000 tons.

Anthracite Production by Districts.

District	1921	1922	1923	District	1921	1922	1923
I	2,435,441	1,516,672	*.....	XIV	4,306,067	2,362,011	4,552,515
II	3,221,669	1,965,624	3,774,106	XV	3,803,080	2,362,011	4,082,506
III	2,845,977	1,664,655	3,135,811	XVI	3,121,035	1,799,645	3,222,590
IV	2,066,322	1,191,043	1,481,343	XVII	3,251,922	2,101,718	3,802,239
V	2,056,299	865,808	2,611,014	XVIII	3,430,658	2,359,184	3,873,146
VI	4,032,792	2,172,996	4,372,726	XIX	2,479,992	1,708,650	2,692,905
VII	2,399,937	1,595,943	3,059,691	XX	2,921,394	1,833,075	2,955,484
VIII	3,666,462	2,806,957	*.....	XXI	3,988,497	2,539,482	4,083,059
IX	2,683,120	1,618,963	2,491,855	XXII	4,009,466	1,898,927	3,291,989
X	3,242,035	1,870,147	3,228,839	XXIII	2,780,185	1,976,230	3,431,954
XI	3,709,926	1,892,958	2,925,844	XXIV	2,545,508	1,741,655	2,811,572
XII	4,560,668	2,265,521	3,627,615	XXV	2,335,261	1,549,404	2,581,820
XIII	4,718,503	2,505,169	4,605,470	Total gr.	79,012,261	46,880,126	*76,676,093
				Total, net.	88,493,732	52,505,741	85,877,224

* We are obliged to omit two of the anthracite inspection districts this year, as the economy program fostered by Governor Pinchot has seriously hampered the activities of the Department of Mines and precludes the furnishing of figures with the usual promptness.

FIRST

SECOND

Company	Address	1921	1922	1923
Hudson Coal Co.	Scranton	2,307,949	1,237,875	2,558,923
Scranton Coal Co.	Scranton	326,149	200,980	317,521
Temple Coal Co.	Scranton	246,555	158,312	240,579
Archbald Coal Co.	Wilkes-Barre	57,919	84,803	138,815
Hillside C. & I. Co.	Scranton	123,646	78,847	164,286
Humbert Coal Co.	Scranton	101,181	70,535	136,266
Murrin Coal Co.	Scranton	15,825	34,995	92,501
Rose Coal Co.	Scranton	.....	6,680	33,680
Amerman Coal Co.	Jermyn	.....	5,600	18,630
Lackawanna CM. Co.	Carbondale	2,495	1,187	1,154
Radiant Coal Co.*	Scranton	37,905	71,897	34,870
Sunrise Coal Co.	Scranton	.....	.....	15,696
Oak Run Coal Co.	Scranton	.....	.....	11,617
American Coal Exch., Inc.	Scranton	.....	.....	6,757
Duffy Coal Co.	Scranton	.....	.....	2,811
Total		3,221,669	1,965,624	3,774,106

*Formerly Rhondda Coal Co.

Anthracite District Production.

We are now able to present the official returns for two of the mine inspection districts of Pennsylvania. Owing to departmental changes these figures were not available when the tonnages for the other districts were presented during the months of February, March and April. As a result they were not included in our Annual. Cut these out and paste them in the book and you will have the complete story.

FIRST

Company	Address	1921	1922	1923
Hudson Coal Co.	Scranton	554,673	292,765	426,454
Hillside C. & I. Co.	Scranton	431,215	251,248	417,569
Temple Coal Co.	Scranton	110,048	77,994	158,150
Connell Anth. Mining Coal Co.	Scranton	238,216	122,591	232,395
Mt. Jessup Coal Co., Ltd.	Peckville	285,848	163,547	247,980
Northern Anth. Coal Co.	Lopez	109,792	77,697	84,987
Racket Brook Coal Co.	Carbondale	104,823	89,025	153,613
Barton Coal Co.	Scranton	20,608	34,908	51,022
Carbondale CM Co.	Carbondale	25,561	14,068	26,197
Clifford Coal Co.	Scranton	.....	12,527	37,456
Richmondale Coal Co.	Scranton	17,036	12,944	23,102
Murray B. Courtright	Philadelphia	.....	4,794	3,905
B. W. Gibson Coal Co.	Carbondale	.....	2,365	13,391
Superior Anth. Coal Co.	Carbondale	.....	2,020	23,616
Bald Mt. Coal Co.	Peckville	.....	.....	42,228
Judge Coal Co.	Scranton	.....	.....	52,062
Red Raven Coal Co.	Scranton	.....	.....	4,202
Total		2,435,441	1,516,672	1,998,329

Lackawanna Coal Co. operation transferred to another district.

EIGHTH

Pennsylvania Coal Co.	Scranton	2,665,153	1,515,506	2,029,781
Hillside C. & I. Co.	Scranton	677,685	344,781	618,505
Hudson Coal Co.	Scranton	315,436	146,130	249,382
Avoca Coal Co.	Avoca	.....	.....	67,645
Barnum Coal Co.	Scranton	.....	.....	37,844
Benjamin Coal Co.	Scranton	.....	.....	39,967
Clifford Coal Co.	Kingston	.....	.....	17,516
East Pittston Coal Co.	Scranton	.....	.....	15,816
O'Hara Coal Co.	Avoca	.....	.....	5,760
Pittston Fuel Co.	Scranton	.....	.....	17,661
Volpe Mining Co.	Pittston	.....	.....	10,262
Yatesville Coal Co.	Pittston	.....	.....	22,837
Total		3,666,462	2,006,957	3,732,976

THIRD

Company	Address	1921	1922	1923
Hudson Coal Co	Scranton	1,253,833	761,005	1,510,119
Glen Alden Coal Co	Scranton	894,992	468,829	840,476
Legitts Creek Anthracite Co	Scranton	357,438	217,350	405,227
Von Storch Collieries Co	Scranton	262,039	132,730	245,709
Mid City Coal Co	Scranton	70,559	47,561	112,034
Providence Coal Co	Scranton	.....	13,709	11,748
M. A. Franklin Coal Co	Scranton	.....	.....	14,498
Total		2,845,977	1,664,655	3,135,811

FOURTH

Scranton Coal Co	Scranton	610,391	369,071	644,601
Glen Alden Coal Co	Scranton	297,027	82,681	.....
Price-Pancoast Coal Co	Scranton	294,195	210,404	302,010
Pennsylvania Coal Co	Scranton	282,771	185,432	332,711
Hudson Coal Co	Scranton	384,498	188,442	99,888
Green Ridge Coal Co	Scranton	42,853	25,378	38,765
Se Rob Coal Co	Scranton	91,146	56,474	43,455
Walter M. Stevens Coal Co	Scranton	.....	.....	2,358
Roaring Brook Coal Co	Scranton	.....	.....	17,555
Total		2,066,322	1,191,043	1,481,343

FIFTH

Glen Alden Coal Co	Scranton	1,473,329	476,055	1,760,647
Hudson Coal Co	Scranton	513,635	256,848	479,722
Scranton Anth. Coal Co	Scranton	15,000	20,299	154,050
W. Y. Moffat	Dunmore	33,225	24,428	63,474
Gibbons Coal Co	Scranton	21,060	51,723	52,270
Black Diamond Coal Co	Scranton	50	15,732	4,622
Park Hill Coal Co	Scranton	.....	5,769	20,711
Powell & Jennings Coal Co	Scranton	.....	3,600	23,803
Slocum Hollow Coal Co	Scranton	.....	12,354	51,710
Total		2,056,299	865,808	2,611,014

SIXTH

Pennsylvania Coal Co	Dunmore	1,542,895	938,490	1,713,704
Glen Alden Coal Co	Scranton	939,870	475,897	861,948
Hudson Coal Co	Scranton	954,832	420,516	838,691
Scranton Coal Co	Scranton	232,529	116,772	405,167
Quinn Coal Co	Scranton	7,761	78,236	64,245
Mt. Jessup Coal Co	Mt. Jessup	151,889	16,163	.....
Nay Aug Coal Co	Carbondale	38,073	24,109	50,472
Spencer Coal Co	Dunmore	57,869	52,451	59,255
Bald Mountain Coal Co	Scranton	66,804	17,703	.....
Carney & Brown Coal Co	Dunmore	21,304	11,872	20,625
John J. Boland Coal Co	Scranton	8,737	8,130	9,080

Company	Address	1921	1922	1923
Scranton Anth. Coal Co.	Scranton	10,229	12,657	27,260
Lackawanna Coal Co., Ltd.	Scranton	.....	.....	271,798
Scranton Anth. Briq. Co.	Scranton	.....	.....	34,133
Grove Hill Coal Co.	Scranton	.....	.....	9,008
Total		4,032,793	2,172,996	4,372,726

SEVENTH

Glen Alden Coal Co.	Scranton	1,344,629	744,308	1,355,338
Pennsylvania Coal Co.	Scranton	744,950	409,257	834,542
Hillside C. & I. Co.	Scranton	125,097	54,909	66,051
Suffolk Coal Co.	Scranton	135,463	143,927	145,648
Jermyn & Co.	Scranton	59,803	200,997	372,162
Dennington Coal Co.	Scranton	.....	23,734	27,743
Suffolk Anth. Collieries	Scranton	.....	.....	102,188
Lehigh & Wyo. Val. CM. Co.	Scranton	.....	.....	156,019
Total		2,399,937	1,595,943	3,059,691

EIGHTH

Returns will be published in Saward's Journal as soon as available and can be inserted here.

NINTH

Lehigh Valley Coal Co.	New York	1,626,392	943,062	1,492,522
Temple Coal Co.	Scranton	493,323	347,701	490,148
Kingston Coal Co.	Kingston	338,332	182,018	280,693
Mt. Lookout Coal Co.	Scranton	164,130	100,686	128,903
John Anse Coal Co.	Duryea	7,425	10,817	7,215
Healy Coal Co.	Plains	21,344	2,109	.....
Harris-Denly Coal Co.	Cleveland, O.	29,291	21,738	56,906
John-Fib Coal Co.	Wyoming	3,127	10,832	19,674
Troy Coal Co.*	Plains	.....	.....	15,794
Total		2,683,320	1,618,963	2,491,855

*Formerly Healy Coal Co.

TENTH

Hudson Coal Co.	Scranton	1,025,998	485,201	863,998
Glen Alden Coal Co.	Scranton	679,866	356,590	680,279
Conlon Coal Co.	Scranton	59,992	37,490	73,746
Lehigh Valley Coal Co.	Wilkes-Barre	772,052	473,774	729,611
Central Coal Co.	Parsons	68,159	36,869	55,696
Haddock Mining Co.	Dorrancetown	160,914	111,632	195,048
Wilkes-Barre Colliery Co.	Frackville	170,449	98,706	138,744
Traders Coal Co.	Scranton	56,849	88,288	158,766
Raub Coal Co.	Luzerne	65,886	49,285	100,461
Healy Coal Co.	Hudson	27,338	11,315	.....
East Boston Coal Co.	Kingston	154,532	121,007	203,787
Miner's Mills CM. Co.	Scranton	.....	.....	28,703
Total		3,242,035	1,870,147	3,228,839

ELEVENTH

Company	Address	1921	1922	1923
Lehigh & Wilkes-B. Coal Co.	Wilkes-Barre	1,665,970	874,241	1,347,070
Lehigh Valley Coal Co	Wilkes-Barre	931,789	536,683	831,060
Hudson Coal Co	Scranton	962,725	420,272	747,235
Sullivan & Flynn Co	Wilkes-Barre	.....	.....	478
Total		3,709,926	1,892,958	2,925,844

TWELFTH

Hudson Coal Co	Scranton	1,657,148	684,066	922,297
Glen Alden Coal Co	Scranton	1,266,919	668,716	1,259,206
Lehigh & Wilkes-Barre C. Co.	Wilkes-Barre	1,110,099	628,059	949,162
Kingston Coal Co	Kingston	511,088	261,606	423,048
Plymouth Red Ash Coal Co.	Plymouth	17,361	11,759	21,359
Cullen Fuel Co	Plymouth	8,052	4,315	40,544
Larksville Coal Co	Plymouth	.....	.....	12,000
Total		4,560,668	2,265,521	3,627,615

THIRTEENTH

Glen Alden Coal Co	Scranton	2,657,312	1,318,648	2,610,664
Lehigh & W.-B. Coal Co.	Wilkes-Barre	1,284,939	773,883	1,182,186
Lehigh Valley Coal Co	Wilkes-Barre	510,800	259,798	465,190
Pittston CM. Co	Pittston	134,445	83,882	149,634
George F. Lee Coal Co	Wilkes-Barre	98,285	22,944	69,826
Grand Tunnel Coal Co	Philadelphia	32,721	46,013	127,970
Total		4,718,503	2,505,169	4,605,470

FOURTEENTH

Susquehanna Collieries Co.	Wilkes-Barre	1,587,781	952,220	1,563,176
Glen Alden Coal Co	Scranton	977,771	519,652	1,006,850
Lehigh & W.-Barre Coal Co.	Wilkes-Barre	805,435	520,292	839,470
West End Coal Co	Mocanaqua	520,311	339,047	577,440
Alden Coal Co	Alden Station	337,485	227,882	369,331
E. S. Stackhouse Coal Co.	Shickshinny	39,846	49,529	63,467
East Alden Mining Co	Wilkes-Barre	37,438	20,033	33,827
Nanticoke Valley Coal Co.	Nanticoke	.....	30,034	98,954
Total		4,306,067	2,658,689	4,552,515

FIFTEENTH

Jeddo Highland Coal Co.	Jeddo	1,128,014	832,636	1,158,441
Coxe Bros. & Co., Inc.	Wilkes-Barre	1,150,486	606,517	1,190,209
Lehigh Valley Coal Co	Wilkes-Barre	600,468	362,748	654,580
Pardee Bros. Co., Inc.	Lattimer	574,804	353,674	542,824
Hazle Brook Coal Co.*	Hazleton	118,762	55,369	421,965
East Point Coal Co	Scranton	14,453	13,672	30,549
M. S. Kemmerer & Co	Sandy Run	70,071	44,212	42,964
Wolf Collieries Co.†	Scranton	.....	.....	40,972
Total		3,803,080	2,362,011	4,082,506

*Wentz Co. in 1921.
†Have no breaker. Coal prepared at Drifton breaker of Coxe Bros. & Co.

SIXTEENTH

Company	Address	1921	1922	1923
Cranberry Creek Coal Co.	West Hazleton.	903,336	490,467	840,132
Coxe Bros. & Co., Inc.	Wilkes-Barre ..	634,575	296,314	531,857
Lehigh Valley Coal Co.	Wilkes-Barre ..	.....	.....	337,468
Tip Top Coal Co.	Scotch Valley..	.....	.....	4,462
Lehigh & Wilkes-Barre C. Co.	Wilkes-Barre ..	659,660	391,070	693,810
C. M. Dodson Coal Co.	Bethlehem	271,597	176,354	303,814
Van Wickle Estate	Hazleton	171,622	129,081	154,409
Harwood Coal Co.	West Hazleton.	401,977	210,681	142,191
Evans Colliery Co.	Beaver Meadow	36,268	46,948	112,796
Beaver Valley Coal Co.	Baltimore, Md.	41,800	40,341	36,613
Candlemas Coal Co.	Jeddo	.....	16,469	65,040
Total		3,121,035	1,799,645	3,222,590

SEVENTEENTH

Lehigh Coal & Navigation Co.	Lansford....	2,802,609	2,101,718	3,802,239

EIGHTEENTH

Phila. & Reading C. & I. Co.	Pottsville	1,460,861	1,013,754	1,609,503
Lehigh Coal & Nav. Co.	Lansford	426,054	258,228	528,854
Lehigh Valley Coal Co.	Wilkes-Barre ...	404,759	231,909	269,853
Mill Creek Coal Co.	New Boston.....	259,960	175,072	374,976
Hazle Brook Coal Co.*	Maryd	277,091	174,835	243,157
St. Clair Coal Co.	St. Clair	265,811	225,696	297,437
Alliance CM. Co.	Philadelphia	174,554	146,238	292,817
Schuylkill Valley Coal Co.	Pottsville	28,802	31,602	45,181
Thouron Coal Co.	Avoca	13,544	27,743	36,760
Gorman & Campion Coal Co.	Tuscarora	52,177	32,769	59,760
Spring Run Collieries Co.	New Philadelphia	.....	.....	9,041
Bergen Coal Co.	Pottsville	25,246	11,293	5,807
Total		3,430,658	2,359,184	3,873,146

* Maryd Coal Co. in 1921 and 1922.

NINETEENTH

Phila. & Reading C. & I. Co.	Pottsville	1,115,596	669,690	946,653
Lytle Coal Co.	Wilkes-Barre ...	304,802	216,095	399,966
Buck Run Coal Co.	Minersville	278,673	192,354	241,689
York Farm Coal Co.	Pottsville	29,794	104,207	36,459
Gardner Coal Co.	Pottsville	15,312	39,036	5,211
Cullen Fuel Co.	New York	9,912	14,303	43,300
Sherman Coal Co.	Pottsville	23,148	38,563	65,574
Black Heath Coal Co.	Minersville	8,825	6,055	10,819
Butcher Creek Coal Co.	St. Clair	10,892	10,700	28,916
Pine Hill Coal Co.	Scranton	278,673	298,676	623,004
Repplier Coal Co.	Minersville	.....	118,971	253,739
Kresage Coal Co.	Pottsville	.....	.....	37,575
Total		2,479,992	1,708,650	2,692,905

TWENTIETH

Company	Address	1921	1922	1923
Phila. & Reading C. & I. Co.	Pottsville	2,383,126	1,545,826	2,283,064
Lehigh Valley Coal Co.	Wilkes-Barre	538,268	287,250	672,420
Total		2,921,394	1,833,075	2,955,484

TWENTY-FIRST

Phila. & Reading C. & I. Co.	Pottsville	1,573,052	838,385	1,218,409
Lehigh Valley Coal Co.	Wilkes-Barre	1,192,346	652,945	1,129,868
Locust Mt. Coal Co.	Bethlehem	589,256	445,836	675,245
Susquehanna Collieries Co.	Wilkes-Barre	239,811	144,744	245,780
Thomas Colliery Co.	Shenandoah	236,490	351,972	594,227
Hazel Brook Coal Co.	Hazleton	.....	.....	219,530
Total		3,988,497	2,539,482	4,083,059

TWENTY-SECOND

Phila. & Reading C. & I. Co.	Pottsville	1,998,731	800,667	1,102,222
Lehigh Valley Coal Co.	Wilkes-Barre	978,668	428,216	1,004,428
Harleigh-Brookwood Co.	Pottsville	383,695	234,000	365,821
Hazel Brook Coal Co.*	Wilburton	364,536	147,118	407,890
East Bear Ridge Coal Co.	Mahanoy City	262,210	163,395	257,733
Laurel C. M. Co.	Mowry	21,626	19,163	46,297
Repplier Coal Co.†	Minersville	.....	.....	107,598
Total		4,009,466	1,898,927	3,291,989

*Formerly Midvalley Coal Co. ‡Same as Hazel Brook.

TWENTY-THIRD

Susquehanna Collieries Co.	Wilkes-Barre	1,112,859	692,560	1,188,000
Phila. & Reading C. & I. Co.	Pottsville	635,000	797,975	1,226,000
Colonial Colliery Co.	Frackville	333,620	225,767	504,000
Greenough Red Ash Coal Co.	Shamokin	228,841	139,929	241,189
Excelsior Coal Co.	Shamokin	202,600	120,000	204,000
Shamokin Red Ash C. Co.	Shamokin	65,778	53,470	68,765
Total		2,779,185	1,976,230	3,431,954

TWENTY-FOURTH

Phila. & Reading C. & L. Co.	Pottsville	1,647,344	945,894	1,428,169
Susquehanna Collieries Co.	Shamokin	486,227	347,505	649,376
Buck Ridge CM. Co.	Shamokin	178,330	102,526	155,550
Trevorton Colliery Co.	Shamokin	131,145	84,544	185,574
Shipman Koal Co.	Shamokin	102,462	96,431	151,502
Enterprise Coal Co.	Scranton	.....	163,705	233,559
North'd Collieries, Inc.	Shamokin	.....	.....	7,842
Total		2,545,508	1,741,655	2,811,572

TWENTY-FIFTH

Phila. & Reading C. & I. Co.	Pottsville	1,521,226	936,546	1,630,993
Susquehanna Collieries Co.	Wilkes-Barre	813,880	612,858	948,827
Hazle Brook Coal Co.	Philadelphia	.....	.....	2,000
Total		2,335,106	1,549,404	2,581,820

PENNSYLVANIA BITUMINOUS

Area Covered, Progress Made and Present Achievement.

The bituminous coal fields of Pennsylvania are in the western part of the State covering practically all of the area beyond Center County, which is in the precise center of Pennsylvania. The districts are numerous. Commencing with the outlying Blossburg district in Tioga County, they may be enumerated as follows:

Blossburg	Allegheny River	Johnstown	Latrobe
Snowshoe	Indiana	Southfork-Windber	Greensburg
Clearfield	Two Lick	Quemahoning	Youghiogheny
Reynoldsville	Cambria	Broadtop	Connellsville
Low Grade Division	Shawmut	Meyersdale	Pittsburgh

The tonnage of coal from these fields exceeds the output of any other State in the Union. Quite aside from the anthracite tonnage, the bituminous tonnage in Pennsylvania puts the State in the first rank. The coal includes all classifications and all requirements of gas making, steam raising, coke making, smithing purposes, etc., can be met. There is even a small amount of cannel coal produced in one section. While not so prominent in the public eye as is the anthracite industry the bituminous industry is most important and adds greatly to, if indeed it does not actually create, the industrial pre-eminence of the Keystone State.

The first authentic records of bituminous coal production in Pennsylvania covering the State in its entirety dates from 1840, when the amount produced was 464,826 tons. In view of this large tonnage it is probable that production had been carried on for a considerable length of time prior to that date.

The growth of the industry was relatively slow. Production did not reach a million tons until 1850, when the anthracite business was four times as great and did not reach two million tons until 1857, when the anthracite was still four times as great. It reached 4,000,000 tons, however, in 1862, when the anthracite business was less than 10,000,000 tons and in 1870 was 7,798,518 tons, just about half of the anthracite tonnage. In 1880 the bituminous tonnage was 18,425,163 tons, considerably more than half of the anthracite business, and in 1890 it was 42,302,173 tons, or only 10 per cent less than the anthracite tonnage. In 1900 it amounted to 79,842,326 tons, which put it far in the lead of the anthracite business, and since then the growth has been great, anthracite becoming a minor factor in the coal trade of Pennsylvania.

The soft coal trade has had periods of great depression, but the growth of the tonnage has been most remarkable and has played a wonderful part in the upbuilding of the country.

On the following pages we show details of production by companies operating in the various mine inspection districts which now aggregate no less than 30 in number, all mines employing ten men or more being under inspection by the Department of Mines.

Pennsylvania Bituminous Production by Districts.

District	1921	1922	1923	District	1921	1922	1923
I	4,209,468	3,700,770	7,700,367	XVI	7,594,066	3,999,064	8,788,081
II	4,021,474	5,395,115	5,327,080	XVII	2,688,612	2,174,260	4,562,664
III	2,270,779	3,023,294	3,135,341	XVIII	1,889,094	2,174,260	2,930,593
IV	3,039,707	3,157,845	4,596,574	XIX	5,060,534	4,965,408	6,288,698
V	3,525,268	4,203,256	6,790,923	XX	4,172,542	4,230,424	4,092,436
VI	4,679,671	3,784,940	5,798,007	XXI	4,378,051	4,582,812	8,838,299
VII	4,285,424	3,187,738	5,133,691	XXII	3,174,672	2,560,673	5,452,571
VIII	2,205,419	2,338,292	2,946,197	XXIII	5,942,331	5,231,755	8,586,800
IX	2,114,015	4,009,419	4,582,226	XXIV	5,694,189	3,700,193	5,352,518
X	3,087,418	1,941,280	3,230,590	XXV	3,026,344	3,746,690	5,431,495
XI	4,094,901	5,078,217	6,456,795	XXVI	4,593,404	3,049,969	6,257,826
XII	3,398,047	3,410,134	5,251,424	XXVII	3,742,856	3,004,317	6,980,360
XIII	3,511,804	2,824,385	4,585,543	XXVIII	2,703,475	3,596,653	5,504,069
XIV	2,302,369	2,941,951	4,350,642	XXIX	6,051,370	5,574,086	10,707,940
XV	3,644,655	2,792,187	4,644,213	XXX	3,757,935	4,133,413	4,753,803
				Total	115,849,814	118,141,579	167,026,766

FIRST

Company	Address	1921	1922	1923
Bethlehem Mines Corp.	Bethlehem	.....	903,965	2,949,911
Pittsburgh Coal Co.	Pittsburgh	896,190	722,919	1,458,168
Valley Camp Coal Co.	Cleveland, O.	574,913	380,024	724,440
Yough. & Ohio Coal Co.	Cleveland, O.	437,608	265,438	575,143
Warner-Yough. Coal Co.	Fayette City	198,838	103,933	259,835
Acme C. & C. Co.	Rimersburg	321,056	222,676	186,112
South Fayette Coal Co.	Bridgeville	68,705	44,547	88,440
Eclipse Gas Coal Co.	Pittsburgh	197,236	110,000	145,077
National Mfg. Co.	Pittsburgh	198,126	250,157	659,219
Ontario Gas Coal Co.	Pittsburgh	174,980	120,480	297,178
Hillman C. & C. Co.	Pittsburgh	.....	27,206	189,381
Henderson Coal Co.	Pittsburgh	.....	18,314	65,584
Diamond C. & C. Co.	Pittsburgh	.....	26,466	34,847
Smaller operators		.....	.....	67,032
Total		4,209,468	3,700,770	7,700,367

SECOND

Keystone C. & C. Co.	Greensburg	326,001	1,353,979	1,491,890
H. C. Frick Coal Co.	Scottdale	399,941	386,200	307,535
Hostetter-Connells Coke Co.	Scottdale	228,820	615,795	714,714
The Shenango Furnace Co.	Wilpen	276,474	218,219	388,727
Latrobe-Connels. C. & C. Co.	Greensburg	225,864	248,168	87,652
New Alexandria Coke Co.	Greensburg	30,520	119,631	48,495
Ramsey Coal Co., Inc.	Ligonier	145,405	106,374	108,687
Westmore.-Connells. C. & C. Co.	Ligonier	80,336	137,295	95,518
Ligonier Diamond C. & C. Co.	Ligonier	118,696	85,735	66,470

Company	Address	1921	1922	1923
Saxman C. & C. Co.	Latrobe	66,739	76,489	73,568
Greens.-Connells. C. & C. Co.	Ligonier	98,593	119,657	80,863
Atlantic Crushed Coke Co.	Greensburg	51,468	71,560	128,393
Mt. Pleasant By-Pro. Coal Co.	Greensburg	30,225	108,362	198,590
Seger Bros. Coal Co.	Millwood	141,208	119,470	187,373
Oakville C. & C. Co.	Latrobe	76,877	85,237	92,708
Ridge Coal Co.	Latrobe	124,215	205,191	226,018
Westmoreland Mining Co.	Blairsville	241,332	321,496	260,041
City Coal Co.	Latrobe	41,283	54,660	41,788
Barnett Bros. Coal Co.	Latrobe	57,115	122,566	134,288
Mt. Pleasant Coke Co.	Greensburg	1,640	151,533	116,365
Bradurville C. & C. Co.	Blairsville	20,352	48,338	90,926
Connellsville C. & F. Co.	Connellsville	.....	34,609	40,784
Railway Steel Spring Co.	Latrobe	.....	22,450	37,497
John L. Beatty	Latrobe	.....	.....	36,257
Smaller operators		.....	.....	663,933
Total		4,021,474	5,395,115	5,327,080
	THIRD			
Allegheny Riv. Mining Co.	Kittanning	400,928	232,643	185,710
Mercer I. & C. Co.	Stoneboror	196,078	147,908	179,330
Sharon C. & L. Co.	Mercer	266,942	242,634	306,766
Erie CM. Co.	Butler	82,327	181,154	193,318
Mohawk Mining Co.	Kittanning	150,020	88,650	149,799
Samuel Sherwin	Karns City	52,709	92,237	80,599
Bruin Coal Co.	Bruin	60,610	55,400	99,514
Zenith Coal Co.	Butler	39,578	83,695	93,632
Crescent Port. Cement Co.	Wampum	75,050	80,648	87,485
Pennsy Gas Coal Co.	Franklin	38,365	57,199	47,294
Consolidated C. & C. Co.	Butler	86,461	124,962	81,874
North East CM. Co.	Pittsburgh	62,620	100,600	53,667
Mizener Coal Co.	Erie	39,124	32,626	34,718
West Kittanning Mg. Co.	Kittanning	50,178	33,954	48,186
Standard Coal Co.	Grove City	11,075	112,332	43,570
Annandale Coal Co.	Smithport	20,910	56,177	53,941
MacDonald Coal Co.	Pittsburgh	.....	55,500	118,221
Euclid Gas Coal Co.	Pittsburgh	24,948	53,236	47,134
F. P. Filer & Co.	Mercer	27,160	48,152	40,088
Brady's Bend Coal Co.	E. Brady	18,747	44,443	72,435
Butler CM. Co.	Butler	.....	39,149	41,680
Victoria Coal Co.	Pittsburgh	10,270	38,583	40,937
Hallston Coal Co.		.....	.....	88,329
W. J. James	Franklin	.....	60,121	60,847
Leet Coal Co.	Pittsburgh	.....	8,513	49,016
Cosco Gas Coal Co.	Butler	.....	.....	42,695
North Butler CM. Co.	Butler	.....	23,779	40,347
Loma Coal Co.	Cadiz, O.	.....	7,854	36,139
Haney Coal Co.	Clearfield	.....	24,268	33,313
Smaller operators		.....	.....	676,107
Total		2,270,779	3,023,294	3,135,341

FOURTH

Company	Address	1921	1922	1923
Buffalo & Susq. C. & C. Co.	DuBois	468,522	350,812	625,480
Northwestern M. & Ex. Co.	DuBois	805,654	548,836	959,035
Shawmut Mining Co.	St. Marys	223,528	192,628	331,505
Kettle Creek C. M. Co.	Bitumen	50,269	49,210	165,691
Cascade C. & C. Co.	Buffalo, N. Y.	49,436	60,645	221,198
Peale, Peacock & Kerr	New York	125,151	119,361	228,179
Potts Run Coal Co.	Clearfield	36,980	57,479	94,535
Hopkins C. M. Co.	Lock Haven	106,243	51,355	37,560
Panther Run Coal Co.	Ridgway	131,893	66,415	141,108
Bald Hill Coal Co.	St. Benedict	89,780	46,183	103,938
Jefferson Coal Co.	Coal Glen	46,717	53,557	100,971
Toby C. M. Co.	Brockwayville	44,879	47,538	98,655
Carnwarth Coal Co.	Winburne	46,950	33,964	46,089
A. B. Lansberry	Woodland	38,769	59,753	56,328
Woodland Cannel C. Co.	Woodland	11,014	54,836	42,276
Woolridge Coal Co.	Woodland	29,965	52,000	32,093
Harbison-Walker Ref. Co.	Pittsburgh	27,423	46,560	48,599
Maple Run Coal Co.	Olanta	29,978	46,458	93,168
Burns Bros.	Houtzdale	.....	19,329	80,085
Beadle & McCauley C. Co.	Brockwayville	.....	7,507	52,900
Cassidy Coal Co.	Curwensville	.....	21,369	44,826
Wiley Coal Co.	Curwensville	.....	22,410	42,758
Elk Coal Co.	St. Marys	.....	16,509	42,410
Shawnee Mfg. Co., Inc.	St. Marys	.....	21,803	41,885
Boardman Coal Co.	Clearfield	.....	29,004	33,732
Clearfield Coll. Co.	Clearfield	.....	23,431	31,203
Crescent Refract. Co.	Curwensville	.....	15,834	30,822
Smaller operators		.....	.....	769,545
Total		3,039,707	3,057,845	4,596,574

FIFTH

H. C. Frick Coke Co.	Scottdale	1,630,451	2,069,863	4,223,392
W. J. Rainey, Inc.	Uniontown	668,297	338,477	810,988
Oliver & Snyder Steel Co.	Uniontown	116,888	61,682	333,973
Hecla C. & C. Co.	Pittsburgh	74,910	77,356	107,959
Locust Hill Coal Co.	Point Marion	103,599	139,835	124,552
Evans C. & C. Co.	Uniontown	66,552	52,126	43,749
R. B. Hays Coal Co.	Rockwood	41,344	51,070	78,011
Harah C. & C. Co.	Smithfield	40,926	54,788	46,400
W. J. Reilly C. & C. Co.	Uniontown	31,707	117,209	68,811
Fancy Hill Coal Co.	Cheat Haven	147,969	177,670	209,021
Davidson Conn'lls C. & C. Co.	Connellsville	12,171	73,900	68,880
South Union Coal Co.	Uniontown	.....	.....	134,689
Irwin Gas Coal Co.	Greensburg	.....	.....	111,556
Stern C. & C. Co.	Uniontown	.....	24,150	63,519

Company	Address	1921	1922	1923
Russell C. & C. Co.	Uniontown	.....	26,986	41,746
Small operators		.....	.....	323,677
Total		3,525,268	4,203,256	6,790,923
	SIXTH			
Bethlehem Mines Corp.	Bethlehem	954,567	1,357,371	2,101,272
Logan Coal Co.	Beaverdale	846,883	525,684	933,666
Maryland Coal Co. of Penn.	St. Michaels	370,859	192,329	363,913
Beaver Run Coal Co.	Beaverdale	127,244	67,858	87,978
Stineman C. & C. Co.	South Fork	75,057	85,691	126,496
Stineman CM. Co.	South Fork	52,698	66,402	103,260
Henriette CM. Co.	Dunlo	144,738	72,100	110,252
Telford Coal Co.	Johnstown	160,970	118,558	97,250
Mountain Coal Co.	Galitzin	102,874	51,131	71,226
Riverside CM. Co.	South Fork	168,974	87,860	98,845
Boucher-Cortright Coal Co.	Beaverdale	74,523	49,984	98,572
South Fork CM. Co.	South Fork	91,672	54,836	57,505
Loyal Hanna C. & C. Co.	Onalinda	98,912	40,952	55,401
Penelec Coal Co.	Johnstown	65,499	40,356	58,409
Forks CM. Co.	South Fork	89,052	39,232	48,608
Jasahill Coal Co.	Johnstown	157,161	93,185	115,390
Victor Coal Mining Co.	Somerset	87,406	68,213	123,115
Grazier CM. Co.	Johnstown	76,456	71,165	100,289
Maple Ridge Coal Co.	New York	88,429	54,999	98,988
Smokeless Coal Co.	Johnstown	161,662	98,986	110,527
Cambria Fuel Co.	Beaverdale	133,431	74,786	79,116
Bird Coal Co.	Johnstown	35,369	168,491	208,661
Mineral Point Coal Co.	Johnstown	12,294	46,925	48,837
Huber Street Coal Co.	Johnstown	20,762	31,989	40,801
H. C. Stineman	South Fork	29,730	30,681	44,564
South Fork Bit. Coal Co.	South Fork	.....	20,234	56,471
East Windber Coal Co.	Windber	.....	23,076	50,282
South Cambria Coal Co.	Johnstown	.....	20,121	45,128
Flenner Coal Co.	South Fork	.....	18,882	44,030
Lochrie Coal Co.	Windber	.....	.....	37,152
South Fork Coll. Co.	South Fork	.....	.....	34,962
Smaller operators		.....	.....	147,041
Total		4,679,671	3,784,940	5,798,007
	SEVENTH			
Carnegie Coal Co.	Pittsburgh	746,180	448,402	1,691,971
Pittsburgh Coal Co.	Pittsburgh	568,786	317,827	800,997
Pitts. & Eastern Coal Co.	Cleveland	335,236	146,911	245,042
American Zinc & Chem. Co.	Carnegie	387,022	200,843	317,268
Bertha Consumers Co.	Pittsburgh	479,058	343,359	595,367
Pittsburgh & Erie Coal Co.	Pittsburgh	140,200	45,226	43,000
Bulger Block Coal Co.	Pittsburgh	117,389	121,964	121,921
Greensburg-Co. C. & C. Co.	Ligonier	258,092	82,070	150,444

Company	Address	1921	1922	1923
W. H. Shinn Coal Co.	Pittsburgh	112,666	85,849	129,164
Superior Mining Co.	Lockvale	171,912	117,975	113,310
Midway Coal Co.	Bridgeville	84,639	32,282	91,753
Hanover Coal Co.	Pittsburgh	76,318	101,906	132,863
Harmon Creek Coal Co.	Pittsburgh	14,675	264,880	173,891
Hugh McHugh Coal Co.	Reimersdale	25,899	31,288	50,727
Englert Bros. Coal Co.	Carnegie	.....	126,100	83,636
Fayette Coal Co.	Pittsburgh	.....	26,229	61,225
Carnegie C. & S. Co.	Carnegie	.....	.....	30,415
Smaller operators		.....	.....	300,697
Total		4,385,424	3,187,738	5,133,691
	EIGHTH			
Lehigh Valley Coal Co.	Snow Shoe	102,612	231,042	331,682
Morris Run Coal Co.	Morris Run	105,365	112,210	137,126
Clearfield Bit. Coal Corp.	Indiana	285,193	204,287	309,635
Pennsylvania C. & C. Corp.	Cresson	96,048	98,009	114,093
Peale, Peacock & Kerr	St. Benedict	243,216	147,664	203,361
Moshannon CM. Co.	Osceola Mills	122,133	117,482	117,198
Morrisdale Coal Co.	Morrisdale	51,822	57,362	224,367
Blossburg Coal Co.	Arnot	189,960	116,742	198,885
Fall Brook Coal Co.	Antrim	94,620	61,421	61,834
Cunard Coal Co.	Morrisdale	163,177	123,033	138,888
Victoria CM. Co.	Philipsburg	56,022	34,794	31,148
Penelec Coal Co.	Philipsburg	64,363	46,093	62,497
Roden C. M. Co.	Philipsburg	66,080	35,703	137,928
Moravian Coal Co.	Snow Shoe	27,133	52,250	68,010
Liberty C. M. Co.	Madera	24,487	36,379	44,645
Kristianson & Johnson	Lause	.....	34,543	41,906
Harbison-Walker Ref. Co.	Woodland	30,345	36,744	36,580
Ashman Coal Co.	Philipsburg	28,880	28,174	60,840
Royal Coal Co.	St. Benedict	10,105	26,164	37,739
Kato Coal Co.	Kato	38,192	28,917	30,948
H. B. Scott	Philipsburg	.....	27,815	30,941
Smaller Operators		.....	.....	543,947
Total		2,205,419	2,338,292	2,946,197
	NINTH			
H. C. Frick Coke Co.	Scottdale	1,111,336	2,404,187	3,466,419
W. J. Rainey, Inc.	Uniontown	296,427	174,866	252,825
Indian Creek C. & C. Co.	Somerset	83,272	139,357	98,408
Sagamore Coal Co.	Pittsburgh	45,257	56,643	40,339
American Mang. Mfg. Co.	Dunbar	81,437	74,348	101,173
Brownfield C. & C. Co.	Uniontown	59,806	58,097	35,832
Melcroft Coal Co.	Pittsburgh	113,525	182,448	164,658
Vanderbilt C. & C. Co.	Connellsville	7,568	138,119	49,686
Romney Coal Co.	Pittsburgh	23,049	34,152	31,055
Nellie C. & C. Co.	Connellsville	.....	.....	38,304
Smaller operators		.....	.....	303,527
Total		2,114,015	4,000,419	4,582,226

TENTH

Company	Address	1921	1922	1923
Pennsylvania C. & C. Co.	Cresson	208,536	141,720	338,879
Sonman Shaft Coal Co.	Sonman	836,809	396,783	527,883
Shoemaker CM. Co.	Philadelphia	297,498	170,742	257,001
C. A. Hughes Est.	Altoona	261,647	145,594	194,498
Portage CM. Co.	St. Benedict	245,113	120,318	221,172
Forge CM. Co.	Philadelphia	167,032	89,015	111,581
Miller Coal Co.	Portage	107,954	65,629	91,371
Inland Coal Co.	Greensburg	75,423	62,962	142,271
Beachley Coal Co.	Johnstown	81,602	96,654	160,423
Taylor & McCoy C. & C. Co.	Baltimore, Md.	39,561	76,475	122,158
W. H. Piper & Co.	Philadelphia	52,668	43,573	83,476
Russet Coal Co.	Altoona	56,864	53,894	84,269
Lilly Coal Co.	Altoona	90,094	57,242	84,020
Sonman Run Coal Co.	Philadelphia	74,739	45,942	68,476
Bradley Mine Coal Co.	Altoona	52,443	35,000	48,500
Forks Coal Co.	Altoona	9,924	36,365	66,395
Trout Run CM. Co.	St. Benedict	.....	22,877	63,777
Penker CM. Co.	Baltimore, Md.	53,143	26,697	56,368
Glen White C. & S. Co.	Baltimore, Md.	.....	25,279	46,223
Plymouth CM. Co.	Philadelphia	38,604	16,582	44,604
Geo. Pearce & Sons	Johnstown	38,529	12,766	44,394
Thermal Smok. Coal Co.	Johnstown	33,627	5,869	39,146
W. H. Hughes & Co.	Altoona	.....	16,371	33,822
Penna. Collieries, Inc.	Johnstown	.....	3,101	33,613
Bear Rock Coal Co.	Lilly	39,900	23,024	31,549
Portage Wilmore Coal Co.		.....	15,544	35,650
Smaller operators		.....	.....	199,075
Total		3,087,418	1,941,280	3,230,593

ELEVENTH

H. C. Frick Coke Co.	Scottdale	697,000	1,786,664	2,371,188
Keystone C. & C. Co.	Greensburg	776,048	933,898	877,978
Greensburg Coal Co.	Greensburg	393,281	309,146	312,205
Westmoreland Coal Co.	Irwin	296,851	254,205	347,490
Jamison C. & C. Co.	Greensburg	617,930	295,530	453,316
Yough. & Ohio Coal Co.	Cleveland, O.	458,181	185,562	486,252
Mt. Pleasant Conn. Coke Co.	Greensburg	56,928	278,666	202,788
Wheyl Coke Co.	Uniontown	170,308	178,112	207,301
Humphreys C. & C. Co.	Scottdale	113,341	109,469	123,338
Clare Coke Co.	Greensburg	87,150	49,400	68,500
W. J. Rainey, Inc.	New York	125,256	188,608	455,069
Fulton C. & C. Co.	Youngwood	84,357	51,466	83,579
Penn Valley CM. Co.	Youngwood	.....	62,241	161,631
Yukon Coal Co.	Johnstown	.....	39,532	66,538
Mutual By-Products Coal Co.	Pittsburgh	.....	.....	52,067
Smaller operators		.....	.....	187,555
Total		4,094,901	5,078,217	6,456,795

TWELFTH

Company	Address	1921	1922	1923
Rochester & Pitts. C. & I. Co.	Rochester, N. Y.	688,766	625,376	891,894
Northwestern M. & Ex. Co.	DuBois	596,766	326,374	549,424
Jefferson & C'field C. & I. Co.	Punxsutawney	250,886	183,837	437,249
Clearfield Bit. Coal Corp.	Clearfield	492,277	418,809	694,442
Cascade C. & C. Co.	Sykesville	163,296	192,564	397,852
Onondaga CM. Co.	Buffalo, N. Y.	57,197	77,947	169,163
Pennsylvania C. & C. Corp.	New York	29,332	43,238	125,341
Punxsutawney CM. Co.	Punxsutawney	45,718	62,101	109,841
Banks Coal Co.	St. Benedict	81,685	87,494	46,713
Pansy Coal Co.	Punxsutawney	46,807	113,341	62,541
Ellsworth-Dunham Coal Co.	St. Benedict	116,429	80,413	130,684
Juneau CM. Co.	Punxsutawney	41,040	51,651	103,243
Superior Coal Co.	Glen Campbell	99,168	49,233	159,500
McClure & Tyson Coal Co.	Big Run	86,142	97,750	84,225
Trojan CM. Co.	Clearfield	51,722	37,775	58,386
Williams Run CM. Co.	Punxsutawney	.....	78,864	97,899
Bowersville CM. Co.	Punxsutawney	.....	49,409	82,788
Frostburg Coal Co.	Punxsutawney	.....	47,425	68,615
S. A. Rinn Coal Co.	Punxsutawney	23,936	46,726	94,268
Light CM. Co.	Punxsutawney	.....	42,827	78,148
Anita CM. Co.	Punxsutawney	.....	39,861	34,056
Cushake CM. Co.	Burnside	.....	33,861	37,710
Consolidated C. & C. Co.	Butler	.....	146,844	80,553
Lindsey CM. Co.	Punxsutawney	.....	27,956	61,382
Hillsdale C. & C. Co.	Pittsburgh	.....	20,734	47,111
Susquehanna Fuel Co.	Reynoldsville	.....	8,999	44,155
Perry Hill Coal Co.	Hamilton	.....	21,975	44,082
Cortez CM. Co.	Punxsutawney	.....	18,961	30,520
Ira S. Smith	Reynoldsville	.....	16,724	30,042
Smaller operators		.....	.....	439,588
Total		3,398,047	3,410,134	5,251,424

THIRTEENTH

Pennsylvania C. & C. Corp.	Cresson	653,225	512,172	389,551
Liberty CM. Co.	Philadelphia	301,722	181,200	246,313
Monroe CM. Co.	Colver	350,512	285,513	454,669
Springfield CM. Co.	St. Benedict	266,608	200,182	291,016
Lincoln CM. Co.	Nanty Glo	71,810	107,764	170,657
Imperial Coal Corp.	New York	363,321	131,022	244,480
Conemaugh CM. Co.	Johnstown	175,274	101,525	175,950
Springfield Coal Co.	St. Benedict	37,484	50,967	68,438
Re-or. Com. E. Bit. M. Bonds.	Altoona	73,526	38,989	34,247
Irvona C. & C. Co.	Rosebud	133,184	128,271	220,456
Betz CM. Co.	Philadelphia	50,580	41,792	87,510
Fallen Timber Coal Co.	Fallen Timber	71,816	42,326	67,056
Argyle CM. Co.	Greensburg	110,342	66,831	104,939
Thomson-Lea CM. Co.	La Jose	55,010	80,475	51,640

Company	Address	1921	1922	1923
Heisley Coal Co.	Philadelphia	.....	215,029	526,484
Altoona C. & C. Co.	Altoona	22,793	59,967	43,832
Webster C. & C. Co.	Cresson	.....	.....	250,561
Imperial Cardiff Coal Co.	Johnstown	.....	29,579	208,445
S. J. Mountz & Co.	Smith Mills	38,929	20,923	80,276
Dexcar CM. Co.	New York	61,378	18,824	69,032
Jackson CM. Co.	Expedit	70,369	25,542	53,777
S. Hegarty's Sons	Coalport	.....	14,636	47,751
Beacon Coal Co.	Fallen Timber	.....	17,769	44,194
Jasahill CM. Co.	Johnstown	.....	6,603	40,142
Moshannon Smith C. Co.	Clearfield	.....	21,054	36,873
Janesville Coal Co.	Philadelphia	.....	10,610	36,206
Lakeside Coal Co.	Scranton	.....	16,082	32,556
Victor Collieries Co.	Coalport	.....	.....	30,100
Smaller operators		.....	.....	678,392
Total		3,511,804	2,824,385	4,585,543

FOURTEENTH

Saltsburg Coal Mining Co.	Avonmore	97,544	137,058	278,113
Crucible Fuel Co.	Crucible	98,417	124,432	277,646
Pittsburgh Plate Glass Co.	Creighton	265,904	168,726	269,733
McFetridge Bros. Coal Co.	Creighton	238,152	122,214	105,368
Pennsylvania Salt Mfg. Co.	Matrona	147,797	178,061	178,914
Pine Run Coal Co.	Leechburg	101,165	154,562	204,937
Cochran Coal Co.	Salina	70,810	175,037	238,571
Allegheny C. & C. Co.	Kittanning	65,176	104,100	117,700
Avonmore C. & C. Co.	Leechburg	68,362	34,459	149,451
Maher C. & C. Co.	Leechburg	31,486	31,563	61,054
Armstrong County Coal Co.	Leechburg	30,280	45,712	73,392
Park Coal Co.	Leechburg	43,486	95,438	101,654
Kiskimineitas Coal Co.	Blairsville	99,153	127,386	119,757
Kerr Coal Co.	Freeport	36,156	45,427	146,500
U. S. Aluminum Co.	Pittsburgh	38,260	79,463	122,105
Paulton Coal Mining Co.	Leechburg	37,477	59,818	92,191
Conemaugh Coal Co.	Saltsburg	39,187	73,069	60,520
Ben Franklin Coal Co.	Vandergrift	76,650	90,107	213,070
Johnetta Brick & Coal Co.	Johnetta	63,144	31,064	44,591
Gladys Coal Co.	Leechburg	33,173	71,358	81,184
Kiski Valley Coal Co.	New Bethlehem	32,749	40,918	98,400
Saltsburg Colliery Co.	Leechburg	22,977	123,913	228,295
Apollo Coal Co.	Leechburg	26,268	56,335	84,936
Butler Junction Coal Co.	Leechburg	14,280	44,728	92,605
Amer. Sheet & Fin. Plate Co.	Pittsburgh	18,520	39,525	41,345
Aladdin C. & C. Co.	Leechburg	22,326	37,283	98,191
Clark Coal Co.	Connellsville	2,705	32,612	41,581
Conemaugh-Kiski Coal Co.	Latrobe	.....	22,941	108,908
West Leechb'g Sh. & T. P. Co.	Leechburg	.....	.....	50,467
Kepple CM. Co.	Leechburg	.....	20,416	42,554

Company	Address	1921	1922	1923
Dalliba Coal Co.	Oakmont	.....	22,332	35,841
Provident C. & M. Co.	Kelly Station	.....	16,674	35,331
Taylor Run CM. Co.	Pittsburgh	.....	26,258	31,132
Smaller operators		.....	.....	324,754
Total		2,302,369	2,941,951	4,350,642
	FIFTEENTH			
Pennsylvania C. & C. Corp.	New York	515,413	458,047	1,047,096
Barnes & Tucker Co.	Barnesboro	705,332	556,110	741,055
Sterling Coal Co.	Elmora	273,168	176,164	185,448
Carrolltown Coal Co.	St. Benedict	128,432	82,217	235,426
Rich Hill Coal Co.	Hastings	313,320	143,823	193,478
Cherry Tree Coal Co.	St. Benedict	278,393	180,164	293,044
Madeira, Hill CM. Co.	Philipsburg	121,430	128,832	188,446
Duncan Spangler Coal Co.	Philadelphia	84,447	84,929	103,531
Empire CM. Co.	Clearfield	89,842	81,409	194,413
Clearfield Bit. Coal Corp.	Clearfield	183,446	126,271	51,166
Jos. H. Reilly Coal Co.	Philadelphia	58,577	45,638	63,966
Cymbria Coal Co.	Altoona	132,530	81,409	113,978
Hastings C. & C. Co.	Cherry Tree	82,976	41,034	104,321
Hastings Fuel Co.	Hastings	245,545	49,257	112,988
Barnes Coal Co.	Barnesboro	.....	.....	284,889
Marion Centre CM. Co.	Philadelphia	.....	18,865	115,897
Huether Coal Co.	Hastings	.....	12,934	90,454
Oak Ridge C. & C. Co.	Hastings	.....	26,163	85,003
Lenox Coal Co.	Hastings	82,500	13,312	49,713
Binder CM. Co.	Carrolltown	31,332	29,653	48,458
Smaller operators		.....	.....	331,443
Total		3,644,655	2,792,187	4,644,213
	SIXTEENTH			
H. C. Frick Coke Co.	Scottdale	2,677,248	1,493,328	3,348,137
W. J. Rainey, Inc.	Uniontown	622,465	277,997	834,578
Pittsburgh Steel Co.	Pittsburgh	304,866	208,321	481,174
Hecla C. & C. Co.	Pittsburgh	265,353	296,957	340,273
Redstone C. & C. Co.	Pittsburgh	377,614	208,960	383,236
American Coke Corp.	Pittsburgh	256,320	167,430	196,456
Connellsville Central Coke Co.	Pittsburgh	199,524	151,550	309,070
Republic I. & S. Co.	Republic	282,529	174,902	426,841
Thompson Connells Coke Co.	Republic	128,748	142,485	397,192
Tower Hill Connells Coke Co.	Uniontown	130,467	169,997	372,634
Eastern Coke Co.	Pittsburgh	127,521	153,574	378,403
Bourne-Fuller Coke Co.	Cleveland, O.	209,666	123,016	297,186
Husted-Semans C. & C. Co.	Uniontown	68,995	80,600	165,630
Superior Connels Coal Co.	Lockvale	167,552	52,472	74,582
South Fayette Coal Co.	Pittsburgh	103,352	97,120	131,581
American Connels Fuel Co.	Uniontown	.....	58,312	220,005
Etna Connells Coke Co.	Connellsville	.....	34,198	64,955

Company	Address	1921	1922	1923
Brier Hill Coke Co.*	Brier Hill	299,084	176,094	177,239
Champion Connell. Coke Co.	Brownsville	.....	7,235	76,007
Union Connell. Coke Co.	Uniontown	.....	24,750	72,046
Smaller operators		.....	.....	40,856
Total		5,993,377	3,999,064	8,788,081

* 27th district in 1921 and 1922.

SEVENTEENTH

Pittsburgh Ter. Coal Co.	Pittsburgh	1,213,667	852,232	2,244,470
Pittsburgh Coal Co.	Pittsburgh	766,793	416,370	1,115,637
Chartiers Creek Coal Co.	Pittsburgh	97,886	162,989	289,273
Lindley Coal Co.	Pittsburgh	198,983	60,982	154,637
Consumers Fuel Co.	Charleroi	164,749	118,462	220,882
Union Valley Coal Co.	Pittsburgh	.....	77,400	112,871
Peters Creek Gas Coal Co.	Pittsburgh	.....	20,152	77,176
Walters Coal Co.	Middletown	.....	23,418	30,000
Smaller operators		.....	.....	217,718
Total		2,688,612	2,174,260	4,562,664

EIGHTEENTH

Rockhill C. & I. Co.	Robertsdale	246,857	235,629	553,194
Berwind-White CM. Co.	Houtzdale	257,987	107,099	209,829
Jas. M. McIntyre & Co.	Six Mile Run	65,169	86,389	38,902
Joseph E. Thropp, Inc.	Everett	62,040	44,095	87,005
Bulah Shaft Coal Co.	Ramey	34,960	45,537	70,202
Colonial Iron Co.	Riddlesburg	50,536	45,428	121,746
Grampian CM. Co.	Clearfield	97,968	115,413	199,456
Langdon Coal Co.	Huntington	45,426	38,111	50,997
Yorkshire Coal Co.	Madera	55,651	43,610	47,981
Hale Coal Co.	Philipsburg	104,834	91,660	168,499
Shannon Co.	Dudley	68,205	59,937	105,006
Cedar Hill CM. Co.	Osceola Mills	44,376	35,692	96,345
Kay CM. Co.	Everett	37,297	44,484	46,748
Du Shan CM. Co.	Osceola Mills	29,335	38,942	50,708
Caswin Coal Co.	Osceola Mills	.....	23,367	62,056
E. Eicheberger & Co.	Saxton	.....	20,890	59,250
Kenrock Coal Co.	Saxton	.....	28,791	38,362
Penn Central Power Co.		.....	.....	48,374
Red Top CM. Co.	Houtzdale	.....	28,917	54,093
Schipper Bros. CM. Co.	Six Mile Run	.....	22,729	51,510
Smaller operators		.....	.....	770,330
Total		1,889,094	1,903,039	2,930,593

NINETEENTH

Westmoreland Coal Co.	Irwin	1,791,304	1,683,052	2,267,178
Ocean Coal Co.	Heominie	630,313	582,025	710,588
Bethlehem Mines Corp.	Bethlehem	668,312	634,108	781,653
Keystone C. & C. Co.	Greensburg	418,114	303,449	262,878
Pittsburgh Coal Co.	Pittsburgh	554,180	387,305	712,134

Company	Address	1921	1922	1923
Irwin Gas Coal Co	Greensburg	280,332	319,644	391,179
Hillman C. & C. Co	Pittsburgh	291,646	377,575	359,277
Delmont Gas Coal Co	Delmont	228,846	186,637	139,600
Howard Gas Coal Co	Greensburg	60,250	97,970	157,228
W. B. Skelly Coal Co	Export	73,116	45,742	59,808
Seehart Coal Co	Saltsburg	.....	34,074	73,996
Salem Gas Coal Co	Irwin	.....	.....	89,269
Edw. Tomajko	Adamsburg	.....	24,192	80,000
Claridge Coal Co	Greensburg	.....	.....	63,893
Smaller operators		.....	.....	140,018
Total		5,060,534	4,965,408	6,288,698
	TWENTIETH			
Consolidation Coal Co	New York	963,719	977,814	1,119,674
Hillman C. & C. Co	Pittsburgh	618,173	385,673	441,208
Quemahoning Coal Co	Somerset	595,378	418,459	395,610
Brothers Valley Coal Co	Macdonaldton	73,165	145,062	170,868
Penn Smokeless Coal Co	Pittsburgh	189,385	99,740	106,471
Davis C. & C. Co	Baltimore, Md.	251,013	166,181	160,725
Quemahoning Creek Coal Co	Somerset	195,057	122,330	114,830
Listie Quemahoning Coal Co	New York	150,284	85,544	54,982
C. J. Rowe Bros	Meyersdale	78,129	127,972	52,622
Pine Hill Fuel Co	Meyersdale	91,069	65,981	71,155
Listie Coal Co	Somerset	106,131	78,090	57,221
Hillworth Coal Co	Acosta	76,144	44,149	57,284
Berlin Coal Co	Johnstown	57,320	51,810	38,078
Reading Iron Co	Kimmelton	76,001	59,070	76,185
Atlantic Big Vein Coal Co	Meyersdale	27,694	92,482	80,928
Shipley C. M. Co	Meyersdale	15,646	60,353	72,352
Berkey Bros. Coal Co	Meyersdale	23,146	47,581	42,820
MacGregor Coal Co	Somerset	27,639	41,637	34,144
Keystone Coal Co	York	27,016	41,325	30,244
Forge CM. Co	Philadelphia	7,731	33,549	61,307
Enterprise Coal Co	Garrett	22,760	30,538	52,166
Smokeless Quemah. Coal Co	Somerset	23,898	30,463	41,751
Black Top Coal Co	Washington	.....	27,073	51,631
C. K. Bowman		.....	.....	40,722
Smaller operators		.....	.....	667,458
Total		4,172,542	4,230,424	4,092,436
	TWENTY-FIRST			
Vesta Coal Co	California	1,486,349	2,058,058	4,272,161
Pittsburgh Coal Co	Pittsburgh	506,983	428,070	1,284,783
Lilley C. & C. Co	Charleroi	209,922	229,814	198,006
Reliance Coke & Fur. Co	Denbo	382,746	304,711	339,522
Crucible Fuel Co	Pittsburgh	291,800	271,340	630,426
Clyde C. & C. Co	Pittsburgh	132,852	133,083	254,815
Diamond C. & C. Co	Pittsburgh	10,804	74,819	180,009
Maple Glen Coal Works	Pittsburgh	57,158	67,471	141,089

Company	Address	1921	1922	1923
Pickands, Mather & Co	Cleveland, O	520,194	415,562	703,600
Clarksville Gas Coal Co	Pittsburgh	115,444	80,559	95,804
Champion Gas Coal Co	Pittsburgh	45,834	30,683	57,630
H. C. Frick Coke Co	Scottdale	242,423	131,547	218,212
Trumbull Coal Co	Pittsburgh	182,696	118,137	161,615
Lacey Coal Co	Pittsburgh	52,000	40,778	50,000
Chartiers Southern C. Co	Pittsburgh	4,138	39,649	118,502
Smaller operators		.....	.....	132,922
Total		4,378,051	4,582,812	8,838,299
TWENTY-SECOND				
Pittsburgh Coal Co	Pittsburgh	2,262,855	1,345,782	3,879,781
Hillman C. & C. Co	Pittsburgh	100,101	147,678	480,837
Westmoreland Coal Co	Irwin	262,890	193,799	221,390
Diamond C. & C. Co	Pittsburgh	162,414	142,505	221,200
Lowber Gas Coal Co	Pittsburgh	100,130	104,000	82,282
H. J. Myers	McKeesport	34,644	35,000	31,070
State Road Coal Co	McKeesport	11,931	40,652	72,066
Wineland-Gilmon C. & C. Co	Uniontown	.....	27,191	37,882
Turkey Hollow Coal Co	Monesson	.....	.....	35,440
Smaller operators		.....	.....	390,622
Total		3,174,692	2,560,673	5,452,571
TWENTY-THIRD				
H. C. Frick Coke Co	Scottdale	3,320,876	1,777,352	3,910,126
Hecla C. & C. Co	Pittsburgh	139,696	145,430	435,868
Consolidated Coke Co	Grays Landing	323,180	297,802	493,782
Republic I. & S. Co	Uniontown	49,451	178,255	497,868
Puritan Coke Co	McClellandtown	264,172	201,282	353,817
Poland Coal Co	Pittsburgh	112,073	268,978	208,032
Reilly-Callaghan C. & C. Co	Smithfield	145,762	160,024	105,341
Buckeye Coal Co	Youngstown, O	460,650	273,211	811,501
Pittsburgh Steel Co	Pittsburgh	102,272	204,888	237,131
McKeefrey Coal Co	Martin	93,885	45,490	51,877
West Point Marion Coal Wks.	Point Marion	54,216	60,155	69,801
Maple-Sterling Coal Works	Dunkard	99,000	122,533	88,740
Penn-Pitt C. & C. Co	Point Marion	98,386	113,504	196,334
Fayette Coke Co	New Salem	.....	36,041	115,793
Nicholson Coal Co	Uniontown	43,621	53,296	35,927
Greene Co. C. & C. Co	Point Marion	38,524	50,922	57,993
American Coke Corp	Pittsburgh	79,618	83,445	56,014
Fredericktown C. & C. Co	Fredericktown	101,870	120,149	191,655
Rosedale Coal Co	Morgantown, W.Va.	38,617	47,257	40,233
Warwick Coal Co	Indian Creek	31,556	75,312	43,629
Moffit-Sterling Gas C. Co	Charleroi	2,507	52,492	73,474
Crawford Coal Co	Homestead	.....	47,844	40,690
Hope Coke Co	Uniontown	.....	.....	58,629
Gilmore Coke Co	Pittsburgh	.....	.....	50,000
W. J. Parshall Est	Uniontown	.....	.....	44,494

Company	Address	1921	1922	1923
Mabel Coal Works	Dunkard	.....	.....	40,346
Provins Coal Co	Uniontown	.....	.....	39,190
Smaller operators		.....	.....	238,515
Total		5,942,331	5,231,755	8,586,800
TWENTY-FOURTH				
Berwind-White CM. Co	Windber	2,610,237	1,353,610	2,684,942
Reitz Coal Co	Windber	676,223	466,903	657,823
Arrow CM. Co	Pittsburgh	186,397	89,396	145,961
Huskin CM. Co	Windber	171,236	157,169	86,050
Valley Smokeless Coal Co	Johnstown	158,679	124,477	125,407
Wilbur CM. Co	Blairsville	219,601	178,595	301,996
Baker-Whiteley Coal Co	Baltimore, Md.	142,562	111,828	114,857
Loyal Hanna C. & C. Co	Cairnbrook	279,765	146,647	249,576
Ideal Coal Co	Johnstown	130,924	129,742	100,196
Pennsylvania Collieries, Inc.	New York	96,820	49,596	83,651
Egolf CM. Co	Windber	40,558	47,040	42,103
Colonial Coal Co	Johnstown	105,092	88,770	95,137
Shade CM. Co	Johnstown	59,358	49,000	39,960
Lorain Steel Co	Johnstown	50,363	62,625	59,344
Sheesley Coal Co	Johnstown	32,364	53,115	38,410
Lochrie Coal Co	Windber	.....	28,803	41,762
Somerset-Windber Coal Co	Windber	.....	7,575	40,502
Ives Coal Co	Windber	.....	19,040	36,365
Lochrie-Price Coal Co	Windber	.....	20,642	33,287
Tunnel Smokeless C. Co	Windber	.....	21,658	36,054
Smaller operators		.....	.....	337,136
Total		5,694,189	3,700,193	5,352,519
TWENTY-FIFTH				
Bethlehem Mines Corp	Bethlehem	345,135	758,470	680,017
Jefferson & Clearf. C. & I. Co	Indiana	272,287	556,042	952,361
Pittsburgh Gas Coal Co	Indiana	429,465	532,507	751,778
Russell CM. Co.	St. Benedict	325,729	260,531	400,764
Clearfield Bit. Coal Corp	Clearfield	418,167	366,536	745,212
Coal Run Mining Co	Indiana	112,286	227,031	307,137
Seneca CM. Co	Buffalo	84,519	64,426	77,409
Empire CM. Co	Philadelphia	117,356	65,090	174,261
Tide CM. Co	Indiana	65,847	42,562	108,401
Penn C. & C. Corp	Barnesboro	62,463	45,260	134,888
Roch. & Pitts. C. & I. Co	Rochester	286,222	357,120	492,120
Harve-Mack Coal Co	Clymer	67,975	34,448	56,754
Savan. Collieries Co	Indiana	39,918	57,802	44,889
Marion Centre CM. Co	Philadelphia	71,579	80,299	102,324
Glenside Coal Co	Indiana	64,065	46,762	63,041
L. W. Robinson, Jr	Indiana	.....	.....	40,959
Smaller operators		.....	.....	298,183
Total		3,026,344	3,746,690	5,431,495

TWENTY-SIXTH

Company	Address	1921	1922	1923
National Mining Co.	Morgan	1,164,484	619,935	1,185,637
Pittsburgh Coal Co.	Pittsburgh	362,469	151,618	466,029
Meadow Lands Coal Co.	Pittsburgh	814,700	386,005	907,997
McClane Mining Co.	Washington	367,142	237,700	317,522
Yough & Ohio Coal Co.	Cleveland, O.	375,309	187,308	492,322
Henderson Coal Co.	Canonsburg	47,850	99,340	280,956
Duqesne C. & C. Co.	Avella	309,873	196,338	402,143
Carnegie Coal Co.	Pittsburgh	114,055	56,556	181,121
Lincoln Gas Coal Co.	Pittsburgh	37,584	163,998	264,382
Pryor Coal Co.	Greensburg	43,208	32,350	46,293
Cannonsburg Gas Coal Co.	Pittsburgh	39,981	70,152	103,030
Waverly C. & C. Co.	Pittsburgh	152,097	111,055	182,884
Export Coal Co.	Expedit	151,564	138,921	226,362
Country Club Coal Co.	Pittsburgh	36,000	35,498	113,004
Avella Coal Co.	Greensburg	145,819	111,270	201,632
Pitts. & Southwestern C. Co.	Avella	.....	52,156	98,860
Washington Gas Coal Co.	Pittsburgh	138,746	125,882	251,454
Jefferson Gas Coal Co.	Pittsburgh	.....	62,300	188,944
Glenn Coal Co.	Carnegie	.....	33,397	96,084
Gilmore CM. Co.	Pittsburgh	.....	23,213	59,588
Oak Hill CM. Co.	Washington	.....	21,000	56,000
Smaller operators		.....	.....	137,733
Total		4,593,404	3,049,969	6,257,826

TWENTY-SEVENTH

Pittsburgh Coal Co.	Pittsburgh	581,842	475,199	1,218,751
Washington C. & C. Co.	Dawson	769,402	495,304	1,126,975
H. C. Frick Coke Co.	Scottdale	207,405	379,251	1,013,060
Diamond C. & C. Co.	Pittsburgh	66,306	126,423	357,098
Pittsburgh & Erie Coal Co.	Pittsburgh	204,587	48,799	267,264
Hillman C. & C. Co.	Pittsburgh	67,946	87,788	342,322
Monessen C. & C. Co.	Pittsburgh	170,876	129,745	200,661
Lowber Gas Coal Co.	Lowber	209,121	205,880	441,526
Lincoln C. & C. Co.	Waltersburg	141,664	119,700	221,054
W. J. Rainey, Inc.	Uniontown	326,865	161,200	404,594
Jamison C. & C. Co.	Greensburg	492,400	299,820	690,911
American Coke Corp.	Pittsburgh	132,950	70,010	65,494
Chamouni Coal Co.	Fayette City	96,944	51,483	65,781
Forsythe Coal Co.	Pittsburgh	13,528	48,256	78,066
Century Coke Co.	Brownsville	1,541	46,531	126,967
Snowden Coke Co.	Pittsburgh	659	30,700	160,372
Atlas Coke Co.	Pittsburgh	.....	.....	61,723
Waltersburg Coke Co.	Uniontown	.....	.....	52,179
Victoria Coal Co.	Pittsburgh	.....	.....	33,244
Smaller operators		.....	.....	42,218
Total		3,742,856	3,004,317	6,980,360

TWENTY-EIGHTH

Company	Address	1921	1922	1923
Buffalo & Susq. C. & C. Co.	DuBois	588,105	413,083	833,500
Cowanshannock C. & C. Co.	Rochester, N. Y.	579,164	520,277	981,316
Allegheny River Mfg. Co.	Kittanning	339,071	253,408	254,706
Pine Run Coal Co.	New Bethlehem	51,737	84,606	84,376
Summit CM. Co.	Punxsutawney	107,637	82,642	104,499
Acme Gas Coal Co.	Greensburg	83,954	91,214	122,419
Shawmut Mining Co.	St. Marys	83,030	55,818	116,915
Keystone Mining Co.	East Brady	299,356	72,627	311,059
Pawnee Coal Co.	Kittanning	68,687	38,617	50,711
Red Bank Coal Co.	Pittsburgh	51,112	119,024	135,871
Wallwork Mining Co.	Summerville	42,737	36,383	142,484
Lumstead Coal Co.	Echo	69,390	56,977	79,425
Klamath Coal Co.	Lock Haven	52,195	67,162	46,370
W. J. James Coal Co.	Franklin	51,246	32,759	39,013
Summerville Coal Co.	Brookville	41,999	40,000	48,000
Rimerton Coal Co.	Leechburg	31,855	33,103	67,434
Hamler Coal Co.	Clarion	18,711	67,162	45,081
Eureka Coal Co.	Strattonville	21,758	38,758	47,517
Republic Gas Coal Co.	Kittanning	12,658	36,703	65,928
W. R. Calverley, Inc.	Pittsburgh	.....	.....	242,681
Gilbert Coal Co.	Timblin	94,083	21,421	116,758
Fairmount C. & C. Co.	Pittsburgh	.....	.....	112,795
Monterey Coal Co.	Leechburg	.....	23,905	82,235
Mahoning River C. Co.	New Bethlehem	10,410	8,409	72,560
Cherry Run Fuel Co.	Rimersburg	.....	6,845	70,385
Clarion CM. Co.	Philadelphia	.....	18,736	65,054
Rose & McGregor C. Co.	New Bethlehem	.....	15,496	51,569
Church Hill Mfg. Co.	Leechburg	20,057	29,172	49,055
Kittanning Steam C. Co.	Kittanning	6,593	12,301	47,817
Sandy Hollow C. Co.	Brookville	14,708	17,353	42,456
Reid Coal Co.	Kittanning	.....	.....	38,615
Orchard Coal Co.	Scottdale	.....	11,000	37,970
Mills Coal Co.	Timblin	33,036	1,643	37,432
Cherry Run Coal Co.	Somerset	.....	16,941	33,197
H. O'Neill & Co.	Lucinda	.....	28,093	32,723
Smaller operators		.....	.....	790,083
Total		3,703,475	3,596,653	5,504,069

TWENTY-NINTH

Ford Collieries Co.	Pittsburgh	1,025,398	947,475	1,670,678
Pittsburgh Coal Co.	Pittsburgh	1,072,452	659,886	1,341,265
Valley Camp Coal Co.	Cleveland, O.	1,270,846	891,905	1,470,630
Republic I. & S. Co.	Pittsburgh	395,586	504,352	832,028
Union Collieries Co.	Pittsburgh	302,810	347,903	641,032
Inland Collieries Co.	Harmarville	382,714	179,043	582,391
Superior Fuel Co.	Russellton	163,421	156,949	264,378

Company	Address	1921	1922	1923
Newfield By-Prod. Coal Co.	Cleveland, O.	226,639	105,470	433,278
Montour & Lake Erie Coal Co.	Pittsburgh	41,396	44,687	70,402
Consumers Mining Co.	Steubenville, O.	155,009	300,924	623,320
Fair Haven Coal Co.	Pittsburgh	41,874	68,492	58,499
Harper Coal Co.	Turtle Creek	76,561	49,593	63,465
Sun Coal Co.	Stoneboro	44,721	49,068	53,191
Hall Coal Co.	Turtle Creek	55,957	47,882	50,176
Allegheny-Pittsburgh C. Co.	Pittsburgh	67,322	276,835	420,072
Harwick C. & C. Co.	Pittsburgh	384,695	323,708	542,037
Clever Gas Coal Co.	Connellsville	14,559	66,832	112,501
Hillman C. & C. Co.	Pittsburgh	.....	.....	368,885
Monarch Fuel Co.	East Brady	.....	27,686	219,038
Clinton Block C. Co.	Pittsburgh	.....	29,780	116,034
Mar Coal Co.	Saxonburg	.....	13,592	48,871
Jean Coal Co.	Crafton	.....	21,280	47,867
Ollette Bros.	Bridgeville	.....	.....	31,997
Pitcairn Gas C. Co.	Irwin	.....	21,251	30,614
Montour Coll. Co.	Pittsburgh	.....	48,019	203,301
Mutual By-Products Coal Co.	Pittsburgh	.....	.....	59,936
Smaller operators		.....	.....	384,051
Total		6,051,370	5,574,086	10,707,940
	THIRTIETH			
Ebensburg Coal Co.	Colver	483,762	430,614	614,893
Vinton Colliery Co.	Vintondale	619,626	666,876	505,206
Brush Creek CM. Co.	Indiana	169,190	377,574	589,006
Commercial CM. Co.	Expedit	142,302	89,427	121,575
Graceton Coke Co.	Graceton	201,830	200,635	187,264
Fairfield C. & C. Co.	Bolivar	190,187	122,887	200,165
Dilltown Smokeless Coal Co.	Dilltown	62,548	75,864	94,616
Potter C. & C. Co.	Corral	132,335	203,199	231,990
Homer Coal Co.	Homer City	68,379	105,420	110,000
Big Bend CM. Co.	Expedit	39,557	43,485	50,670
Ridgeview Coal Co.	Bolivar	157,346	98,416	104,038
Maher & Graff Coal Co.	Blairsville	70,403	106,108	48,800
Keystone Coal Co.	Greensburg	128,608	161,964	188,399
Armorford CM. Co.	Blairsville	48,000	75,500	79,500
Kiskiminitas Coal Co.	Blairsville	70,403	106,108	48,800
Bells Mill Coal Co.	Blairsville	52,062	56,660	55,528
Garfield Smokeless Coal Co.	Bolivar	80,664	57,116	55,438
Watson Coal Co.	Saltsburg	74,151	129,721	103,828
Johnstown Smok. C. Co.	Johnstown	113,675	150,213	139,235
Margaret CM. Co.	Bridgeville	70,000	100,500	65,000
Penelec Coal Corp.	Johnstown	76,384	70,313	114,188
Bethlehem Mines Corp.	Bethlehem	.....	218,109	448,311
Smith Coal Co.	Indiana	45,115	63,500	46,034
Standard Smok. Coal Co.	Indiana	17,290	34,034	40,814
Diamond Smok. Coal Co.	Johnstown	.....	.....	178,341
Minevah Coal Co.	Johnstown	.....	16,881	33,967
Smaller operators		.....	.....	256,468
Total		3,757,935	4,133,413	4,753,803

Large Coal Mining Companies of West Virginia

Below is a list of the larger coal mining companies in West Virginia during the fiscal year ending June 30, 1921 and their tonnage for 1922.

Company	Address	Tons 1921	Tons 1922
United States C. & C. Co.,	Pittsburgh, Pa.	3,765,453	3,479,539
Consolidation Coal Co.,	New York	3,643,167	2,440,148
Island Creek Coal Co.,	Holden	2,636,136	3,721,790
Pocahontas Fuel Co., Inc.,	Pocahontas, Va	2,261,750	2,111,790
New River & Poca. Con. Coal Co.,	Philadelphia, Pa	1,403,599	697,006
Davis Coal & Coke Co.,	Baltimore, Md	1,187,525	498,667
Elm Grove Mining Co.,	Elm Grove	853,724	793,375
New Eng. Fuel & Trans. Co.,	Boston, Mass	835,858	650,426
Main Island Creek Coal Co.,	Omar	722,645	731,026
West Virginia C. & C. Co.,	Elkins	714,697	332,089
Consumers' Fuel Co.,	Pittsburgh, Pa	809,228	360,025
Kelly's Creek Coll. Co.,	Cleveland, O	689,987	593,013
Kanawha & Hocking C. & C. Co.,	Cleveland, O	668,856	506,194
Cleveland-Morgantown C. Co.,	Cleveland, O	658,203	301,921
E. E. White Coal Co.,	Glen White	644,195	795,362
Bethlehem Mines Corp.,	Bethlehem, Pa	597,927	546,159
West Virginia-Pittsburgh C. Co.,	Boston, Mass	588,892	484,050
Solvay Collieries Co.,	Syracuse, N. Y	588,590	789,576
Cabin Creek Consolidated Coal Co.,	Charleston	579,038	269,701
Hutchinson Coal Co.,	Fairmont	578,554	342,345
New River Collieries Co.,	New York	578,227	325,414
C. & O. Ry. Co.,	Richmond, Va	539,021	219,817
White Oak Fuel Co.,	Scarboro	501,449	315,767
Logan Mining Co.,	Fairmont	490,442	722,116
Boone County Coal Corp.,	Sharples	485,957	450,282
American Coal Co.,	McComas	482,748	770,553
Lorain Coal & Dock Co.,	Columbus	476,348	763,017
Cranberry Fuel Co.,	Cranberry	440,982	
Loup Creek Colliery Co.,	Page	423,962	235,978
Cannelton C. & C. Co.,	Cannelton	423,860	151,007
Carbon Fuel Co.,	Carbon	416,206	166,020
Elkhorn Piney C. M. Co.,	Milwaukee, Wis	404,789	
Houston C. & C. Co.,	Cincinnati, O	396,196	282,443
Excelsior Pocahontas Coal Co.,	Excelsior	394,762	384,266
Raleigh C. & C. Co.,	Cincinnati, O	383,077	312,200
Windsor Coal Co.,	Pittsburgh, Pa	379,766	359,461
Paint Creek C. M. Co.,	Cleveland, O	373,408	121,554
Carter Coal Co.,	Coalwood	371,543	270,192
Standard Island Creek Coal Co.,	Cleveland, O	368,627	418,008
Turkey Gap C. & C. Co.,	Dott	366,184	577,456
Virginia & Pittsburgh C. & C. Co.,	Fairmont	349,060	294,181
Amherst Coal Co.,	Amherstdale	348,932	439,551

Company	Address	Tons 1921	1922
Winding Gulf Colliery Co.,	Winding Gulf	343,281	461,847
Campbells Creek Coal Co.,	Cincinnati, O.	343,249	275,346
Ashland C. & C. Co.,	Ashland	340,877	452,707
Century Coal Co.,	Century	336,995	241,871
Elk River Coal & Lumber Co.,	Dundon	336,140	526,094
Cleveland-Cliffs Iron Co.,	Cleveland, O.	329,769	425,017
Central Pocahontas Coal Co.,	Welch	322,006	377,211
Gulf Smokeless Coal Co.,	Tams	320,228	
McKell C. & C. Co.,	Glen Jean	318,256	276,874
Lundale Coal Co.,	Huntington	312,152	568,486
Mallory Coal Co.,	Mallory	306,655	556,816
Hitchman C. & C. Co.,	Wheeling	302,152	320,665
Fairmont & Cleveland Coal Co.,	Fairmont	295,001	370,505
East Gulf Coal Co.,	Beckley	291,914	501,973
Peerless C. & C. Co.,	Pottsville, Pa.	290,133	226,170
Crozer C. & C. Co.,	Philadelphia, Pa.	277,484	261,540
Page C. & C. Co.,	Philadelphia, Pa.	265,800	226,000
J. B. B. Coal Co.,	Boston, Mass.	263,485	
Lillybrook Coal Co.,	Lillybrook	259,346	262,875
McDowell C. & C. Co.,	Bramwell	255,121	230,621
Wyatt Coal Co.,	Charleston	245,560	
Pulaski Iron Co.,	Pulaski, Va.	238,850	283,627
Boomer C. & C. Co.,	Cleveland, O.	237,947	156,408
MacAlpin Coal Co.,	Charleston	236,504	281,182
Dawson Coal Co.,	Clarksburg	266,234	47,331
Maryland Coal Co. of W. Va.,	New York	220,545	
Monongahela Power & Ry. Co.,	Fairmont	220,353	52,206
Stuart Colliery Co.,	MacDonald	219,553	117,279
Slab Fork Coal Co.,	Charleston	218,257	253,437
Empire C. & C. Co.,	Landgraff	217,175	302,761
Milburn By-Product Coal Co.,	Milburn	213,828	
Premier Poca. Collieries Co.,	Lynchburg	212,689	222,522
Richland Coal Co.,	Wheeling	212,498	122,584
Lake Superior Coal Co.,	Cannelton	210,654	257,707
Aracoma Coal Co.,	Logan	205,009	191,355
Jamison C. & C. Co.,	Greensburg, Pa.	203,494	45,483
Mill Creek C. & C. Co.,	Bramwell	199,471	
Richland Mining Co.,	Wheeling	197,656	
Gauley Mountain Coal Co.,	Ansted	196,301	
Yukon Pocahontas Coal Co.,	Yukon	194,024	226,292
Elkhorn C. & C. Co.,	Maybeury	193,523	
Mineral State Coal Co.,	Moundsville	190,492	210,273
Upland C. & C. Co.,	Elkhorn	192,477	153 374
Cambria Coal Co.,	Cleveland, O.	185,797	237,150
Thacker C. & C. Co.,	Cincinnati, O.	184,473	182,049
Powhatan C. & C. Co.,	Philadelphia, Pa.	183,552	124,854
Low Moor Iron Co. of Va.,	Low Moor	182,237	112,683
Keystone C. & C. Co.,	Cincinnati, O.	182,080	211,098

SUPERIOR-DULUTH DOCKS

Storage and Handling Capacity of Facilities at Head of Lakes.

Below is some data showing the storage and handling capacity of coal docks at the Head of the Lakes:

Superior.

Berwind Fuel Co., 700,000 tons bituminous; 1,300 tons per hour.

Carnegie Dock & Fuel Co., Dock No. 1, 800,000 tons bituminous; 600 tons per hour.

Great Lakes Coal & Dock Co., 700,000 tons bituminous; 100,000 tons anthracite; 1,000 tons per hour.

M. A. Hanna Coal & Dock Co., 450,000 tons bituminous; 50,000 tons anthracite; 600 tons per hour.

Lehigh Valley Coal Sales Co., 150,000 tons anthracite; 800 tons per hour.

Inland Coal & Dock Co. (details not available).

Northern Coal & Dock Co., 500,000 tons bituminous; 70,000 tons anthracite; 600 tons per hour.

North Western Fuel Co., Dock No. 1, 1,700,000 tons bituminous; 300,000 tons anthracite; 1,700 tons per hour.

North Western Fuel Co., Dock No. 2, 550,000 tons bituminous; 1,000 tons per hour.

Philadelphia & Reading Coal & Iron Co., 240,000 tons bituminous; 160,000 tons anthracite; 1,000 tons per hour.

Pittsburgh Coal Co., Dock No. 5, 800,000 tons bituminous; 200,000 tons anthracite; 600 tons per hour.

Pursglove Coal & Dock Co., 130,000 tons bituminous; 300 tons per hour.

Reeves Coal & Dock Co., 100,000 tons bituminous; 40,000 tons anthracite; 400 tons per hour.

C. Reiss Coal Co., 750,000 tons bituminous; 90,000 tons anthracite; 900 tons per hour.

Duluth.

Berwind Fuel Co., 500,000 tons bituminous; 1,100 tons per hour.

Carnegie Dock & Fuel Co., Dock No. 2, 130,000 tons anthracite; 300 tons per hour.

Clarkson Coal & Dock Co., 400,000 tons bituminous; 60,000 tons anthracite; 700 tons per hour.

Pittsburgh & Ashland Coal & Dock Co., 445,000 tons bituminous; 800 tons per hour.

North Western Fuel Co., Dock No. 4, 400,000 tons bituminous; 100,000 tons anthracite; 600 tons per hour.

Pittsburgh Coal Co., Dock No. 7, 1,000,000 tons bituminous; 80,000 tons anthracite; 1,000 tons per hour.

Superior Coal & Dock Co., 800,000 tons; 650 tons per hour.

Zenith Furnace Co., 375,000 tons bituminous; 750 tons per hour.

The largest coal storage plants in the world are found in the above groups.

Pennsylvania Bituminous Deposits and Reserves.

Total deposits, amount mined and amount recoverable, by counties, is shown in the following table:

County	Original Deposit Tons	Mined Out Tons	Recoverable Tons
Allegheny	3,180,400,000	969,200,000	1,486,900,000
Armstrong	3,750,700,000	107,290,000	2.491,100,000
Beaver	1,116,400,000	1,400,000	560,000,000
Blair	61,900,000	11,900,000	25,000,000
Bradford	39,000,000	300,000	19,000,000
Butler	4,550,000,000	30,000,000	2,300,000,000
Cambria	5,383,000,000	466,900,000	3,638,080,000
Cameron	42,000,000	100,000	20,000,000
Centre	422,000,000	60,000,000	184,000,000
Clarion	1,817,000,000	37,000,000	1,059,000,000
Clearfield	3,902,000,000	308,210,000	2,165,400,000
Clinton	93,000,000	5,000,000	44,000,000
Elk	610,000,000	27,000,000	297,000,000
Fayette	5,229,734,000	899,544,000	2,604,400,000
Greene	10,330,094,000	42,490,000	7,011,400,000
Indiana	6,339,400,000	299,200,000	4,288,700,000
Jefferson	3,420,000,000	180,000.000	1,900,000,000
Lawrence	611,000,000	300,000	311,000,000
Lycoming	68,000,000	200,000	34,000,000
Mercer	368,000,000	40,000,000	172,000,000
McKean	320,700,000	300,000	136,000,000
Somerset	6,091,800,000	187,384,000	3,986,900,000
Tioga	124,400,000	23,200,000	52,000,000
Washington	10,526,023,000	557,763,000	5,481,680,000
Westmoreland	6,381,504,000	1,218,141,000	3,297,500,000
Broad Top Field	391,000,000	46,843,000	265,800,000
Total	75,259,055,000	5,519,665,000	43,830,860,000

Production of Anthracite in 1922, by Counties.

The following table shows for each anthracite producing county of Pennsylvania the total production and value in 1922, as reported to the Geological Survey by the anthracite operators.

County	Production (gross tons)	Value	County	Production (gross tons)	Value
Berks	59,000	$133,000	Northampton	61,000	65,000
Carbon	1,689,000	8,920,000	Northumberland	3,807,000	19,583,000
Columbia	395,000	1,906,000	Schuylkill	12,478,000	64,461,000
Cumberland	6,000	2,000	Sullivan	248,000	1,201,000
Dauphin	952,000	3,363,000	Susquehanna	12,000	86,000
Lackawanna	10,074,000	60,683,000	Wayne	292,000	1,912,000
Luzerne	18,710,000	111,339,000	York	38,000	41,000
Montour	3,000	5,000	Total	48,824,000	$273,700,000

Pennsylvania Bituminous Output by Counties.

Production of bituminous coal in Pennsylvania, by counties, in 1922 and in five years previous was:

County	1917	1918	1919	1920	1921	1922
Allegheny ..	17,836,377	17,375,035	14,856,781	14,605,700	11,931,527	11,023,211
Armstrong .	5,574,861	6,051,753	4,665,232	5,248,000	3,388,762	3,265,848
Beaver	129,163	128,572	139,294	125,900	161,409	226,959
Bedford	947,053	1,050,528	704,289	640,800	317,244	340,434
Blair	271,598	279,817	181,209	172,700	92,144	98,206
Bradford ...	47,151	31,299	13,373	.....	55,296	7,904
Butler	1,201,963	1,397,927	1,128,192	1,292,400	923,391	1,837,961
Cambria ...	19,730,770	20,569,253	16,899,818	17,182,400	16,339,228	12,957,315
Center	1,999,407	1,984,664	1,129,296	1,457,300	764,994	1,207,859
Clarion	1,380,494	1,607,641	1,393,647	1,377,400	1,248,294	1,320,469
Clearfield ...	9,336,533	9,376,429	7,573,392	7,622,200	5,853,922	5,456,359
Clinton	401,812	360,123	288,100	289,700	83,641	146,150
Elk	907,187	968,868	947,595	963,400	878,201	855,105
Fayette	32,083,027	32,925,888	29,660,105	32,998,300	19,260,778	17,759,776
Greene	900,378	1,269,425	1,423,118	1,746,600	2,294,801	2,348,527
Hunt'gdon .	1,155,602	1,371,562	833,690	833,100	484,008	397,150
Indiana	12,053,766	12,743,190	8,526,404	9,613,900	6,357,971	7,620,831
Jefferson ...	5,551,658	5,140,833	3,841,478	4,749,400	2,707,894	2,900,435
Lawrence ..	132,929	107,086	140,054	94,500	193,657	208,907
Mercer	527,421	600,785	481,521	487,900	479,387	457,453
Somerset ...	9,454,537	10,264,083	10,433,752	9,913,000	8,975,808	7,628,253
Tioga	866,803	834,385	593,637	715,100	437,702	374,154
Washington .	21,513,603	23,537,603	19,515,856	22,575,700	14,716,984	12,572,477
West'land ..	28,027,782	28,121,234	24,947,773	22,933,000	18,066,398	20,639,693
Small mines	*a* 404,102	*a* 355,615	273,783	.....	.....	*a* 50,682
Total ..	172,448,142	178,550,741	150,758,154	157,700,400	116,013,942	113,148,308

a Includes Cameron, Fulton, Lycoming and McKean counties.

Coal Shipments on the Kanawha River.

Shipments by water in the calendar years named from collieries below the Kanawha Falls are stated by the Resident Engineer in charge of the United States navigation works to have been as follows:

Year.	Tons.	Year.	Tons.	Year.	Tons.
1912.....	1,276,060	1916.....	1,366,400	1920.....	1,320,180
1913.....	1,342,800	1917.....	1,428,900	1921.....	938,900
1914.....	1,052,560	1918.....	1,091,640	1922.....	727,100
1915.....	1,205,530	1919.....	741,900	1923.....	1,366,230

Total coal shipments in 1923 amounted to 1,366,230 tons, of which 1,363,230 tons originated at collieries on Kanawha River below the Kanawha Falls, and 3,000 tons at collieries on the Ohio River. The coal from the collieries on the Ohio River was shipped up-stream to ports on the Kanawha River; 1,293,080 tons of the coal originating on Kanawha River was shipped to exterior ports and 70,150 tons to interior, or ports on Kanawha River.

COAL PIER CAPACITIES—ATLANTIC PORTS

New York.

	Kind of coal	Daily capacity		Hours
B. & O. RR.				
St. George	Bituminous	8,000	tons	24
Arlington	Bituminous	16,000	"	24
Berwind-White C. M. Co.				
Harsimus	Bituminous	10,000	"	10
C. RR. of N. J.				
Pier 18, Jersey City	Anthracite and Bituminous	25,000	"	10
Communipaw	Anthracite and Bituminous	1,500	"	10
Port Liberty	Bituminous	3,000	"	10
Elizabethport	Anthracite and Bituminous	10,000	"	10
D., L. & W. RR.				
Hoboken	Anthracite	15,000	"	10
Erie RR.				
Undercliff	Anthracite and Bituminous	12,500	"	16
L. V. RR.				
Perth Amboy	Anthracite	12,500	"	10
N. Y., O. & W. Ry.				
Weehawken	Anthracite	7,500	"	10
Pennsylvania RR.				
South Amboy	Anthracite and Bituminous	17,500	"	10
Reading (Port Reading RR.)				
Port Reading	Anthracite and Bituminous	22,500	"	10
Total, New York		161,000	"	..

Philadelphia.

Pennsylvania RR.				
Greenwich	Anthracite and Bituminous	10,000	"	10
Reading Ry.				
Port Richmond	Anthracite and Bituminous	20,000	"	20
Total, Philadelphia		30,000	"	..

Baltimore.

B. & O. RR.				
Curtis Bay	Bituminous	50,000	"	24
Locust Point	Bituminous	3,500	"	24
Pennsylvania RR.				
Canton	Anthracite and Bituminous	12,000	"	20
Western Maryland Ry.				
Port Covington	Bituminous	20,000	"	10
Total, Baltimore		85,500	"	..

Norfolk and Newport News.

Chicago & Ohio Ry.				
Newport News	Bituminous	30,000	"	16

	Kind of coal	Daily capacity		Hours
N. & W. Ry.				
Lamberts Point	Bituminous	40,000	tons	16
Virginian Ry.				
Sewalls Point	Bituminous	25,000	"	16
Total, Hampton Roads		95,000	"	..
Charleston.				
Southern Ry.	Bituminous	15,000	"	24
Total, Charleston		15,000	"	..
Grand Total		386,500	"	..

New York Central Lines Shipments.

Shipments of bituminous coal originating on the New York Central Lines, Buffalo and East, for revenue and company use, during 1922 and 1923 were:

Month	Revenue		Company		Total	
	1922	1923	1922	1923	1922	1923
January	406,369	662,898	195,330	219,045	601,698	881,943
February	488,223	710,175	196,503	195,228	684,726	905,403
March	602,769	940,440	240,312	228,939	843,081	1,169,379
April	149,940	708,696	39,627	175,797	189,567	884,493
May	117,504	670,038	11,016	204,612	128,520	874,650
June	113,016	630,462	12,648	193,341	125,664	823,803
July	84,354	610,011	7,854	194,106	92,208	804,117
August	151,011	648,414	45,543	192,321	196,554	840,735
September	713,898	619,140	171,003	173,451	884,901	792,591
October	812,838	521,985	174,165	204,918	987,003	726,903
November	766,836	188,292	249,186	463,131	1,016,022	651,423
December	705,126	490,059	193,341	188,292	898,467	678,351
Total*	5,111,883	7,400,610	1,536,528	2,633,181	6,648,411	10,033,791

The above also includes the coal originating on Cambria & Indiana RR. and the Pittsburgh & Susquehanna RR. and moved out over the New York Central Railroad. All remainder from Beech Creek.

*Included in total tonnage originating in the Tioga District, 1922, 157,131 tons; 1923, 166,178 tons of which 151,337 tons were revenue and 14,841 tons company.

Lehigh & Susquehanna RR. Anthracite Tonnage.

From	1923
Wyoming Region	4,644,027
Upper Lehigh Region	214,148
Beaver Brook Region	740,288
Mauch Chunk Region	1,179,448
Schuylkill Region	854,207
L. V. R. R. at Allentown	102
L. V. R. R. at Packerton	1,427
Total	7,633,649

Distributed as follows:	
East of Mauch Chunk by rail	7,104,021
East of Mauch Chunk by canal	135,718
To connecting lines above Mauch Chunk	265,100
On line above Mauch Chunk	128,808
Total	7,633,649

Philadelphia & Reading's Bituminous Tonnage.

Shipments of bituminous coal, paying revenue, over the Philadelphia & Reading Ry. during 1923 and five previous years, in gross tons, were:

Month	1918	1919	1920	1921	1922	1923
January	1,400,157	1,485,159	2,109,271	1,804,413	1,120,527	2,174,620
February	1,362,702	1,202,085	1,430,303	1,238,237	1,547,334	1,702,865
March	1,940,911	1,141,463	1,407,882	1,310,357	1,742,560	1,797,284
April	1,880,287	1,345,075	1,590,552	1,132,870	989,039	1,784,055
May	1,540,880	1,592,268	1,798,507	1,206,890	755,558	1,738,409
June	2,140,440	1,538,397	1,542,451	1,217,580	831,530	1,689,865
July	2,122,620	2,118,877	1,820,642	1,122,832	581,203	1,622,814
August	1,995,289	2,352,234	1,956,565	1,290,104	842,369	1,888,702
September	1,832,142	2,561,379	2,092,759	1,266,364	1,333,362	1,673,097
October	1,866,735	2,982,529	2,159,019	1,481,533	1,528,694	1,567,660
November	1,681,789	1,112,823	2,070,579	1,334,318	1,551,411	1,421,144
December	1,735,194	1,389,151	2,180,860	1,160,353	1,712,081	1,539,296
Total	21,499,147	20,821,940	22,359,390	15,526,436	14,535,668	20,599,411

None of this tonnage originates on the Reading, being turned over to the P. & R. by the New York Central, B. & O. and Western Maryland for the most part at such points as Newberry Junction, near Williamsport, Philadelphia and Shippensburg, the latter junction having developed notably in recent years with the upbuilding of the Western Maryland line.

Rail Shipments of Ohio Coal.

The following tabulation shows the tonnage in recent years of several of the railroads in the Ohio Coal Traffic Association transporting coal from Ohio mines to various destinations:

Railroads	1920	1921	1922	1923
Hocking Valley	6,050,208	2,561,056	2,361,810	3,070,821
N. Y. Central (OCL)*	2,971,348	2,186,568	1,607,698	4,398,050
Baltimore & Ohio	3,987,742	2,968,702	2,154,152	3,239,597
Wheeling & Lake Erie	4,701,124	3,835,739	2,837,447	5,267,987
Cleve., Lorain & Wheel	4,801,125	3,977,765	2,610,532	4,612,703
Zanesville & Western	2,134,268	1,002,284	928,572	†
Pennsylvania Lines	6,968,869	6,018,427	3,990,738	5,378,306
N. Y. Central (West)	1,140,015	1,187,492	1,343,908	2,067,323
Kanawha & Michigan	804,341	501,589	441,117	†
Detroit, Toledo & Ironton	637,077	78,371	347,307	153,527
P. & W. RR.	907,151	163,254	865,902	744,159
Balt. & Ohio (OD) RR.	593,623	181,079	301,663	325,057
Balt. & Ohio (TD) RR.	231,608	5,487	54,510	28,300
Federal Valley RR.	140,150	143,991	93,917	88,201
Norfolk & Western Ry.	37,498	4,553	38,828	12,926
Total, net tons	37,106,147	24,816,357	19,978,401	29,386,957

*Formerly T. & O. C. Ry. †Included in New York Central (OCL).

Western Maryland Ry. Shipments.

Shipments of bituminous coal over the Western Maryland Ry., for revenue and company use, during 1922 and 1923 were (net tons):

Month	Revenue		Company		Total	
	1922	1923	1922	1923	1922	1923
January	628,150	885,384	54,734	62,272	682,884	947,656
February	708,967	771,194	46,281	57,116	755,248	828,310
March	754,967	916,892	44,816	65,023	799,783	981,915
April	367,939	890,736	32,836	66,084	400,775	956,820
May	280,843	918,109	33,500	63,135	314,343	981,244
June	376,575	900,090	31,577	58,332	408,152	958,422
July	343,817	915,793	34,756	55,644	378,573	971,437
August	528,001	950,546	49,312	53,084	577,313	1,003,630
September	692,494	806,946	58,198	67,941	750,692	874,887
October	760,032	599,443	59,991	56,064	820,023	655,507
November	692,386	583,718	58,461	66,739	750,847	650,457
December	760,099	664,297	64,706	56,029	824,805	720,326
Total	6,894,270	9,803,148	569,168	727,463	7,463,438	10,530,611

Total tonnage of bituminous coal originated on Western Maryland Ry. and G. C. & C. RR. for calendar years 1922 and 1923 (gross tons):

Month	W. Va. Div.		G. C. & C.		Total	
	1922	1923	1922	1923	1922	1923
January	228,012	370,116	11,512	12,363	239,524	382,479
February	223,520	331,460	12,753	13,413	236,273	344,873
March	226,326	406,317	12,249	17,263	238,575	423,580
April	94,140	388,458	3,723	18,383	97,863	406,841
May	105,829	392,669	660	16,025	106,489	408,694
June	93,858	380,294	.....	10,114	93,858	390,408
July	105,408	322,453	.....	7,702	105,408	330,155
August	166,318	332,482	.....	10,938	166,318	343,420
September	289,864	297,249	473	10,506	290,337	307,755
October	356,180	218,270	2,359	11,456	358,539	229,726
November	333,743	224,688	4,456	10,287	338,199	234,975
December	293,840	265,915	9,592	11,987	303,432	277,902
Total	2,517,038	3,930,371	57,777	150,437	2,574,815	4,080,808

Coal Consumption of Martinique.

The annual consumption of coal on the island of Martinique is about 65,000 metric tons, all of which is imported. The principal consumers are the sugar centrals and the steamship companies. Very little change occurs in the demand from year to year, but it depends to some extent upon the calls made for coal by passing vessels and reexports to other ports. The French Government supplies its naval vessels, the dry docks, and the small vessels that ply the coast of Martinique with coal from France, and all other coal consumed is imported from the United States.

Pittsburgh & Shawmut RR. Shipments.

Shipments of bituminous coal over the Pittsburgh & Shawmut RR., during 1923 and four years previous, were:

Month	1919	1920	1921	1922	1923
January	205,423	225,564	196,952	126,282	212,291
February	121,355	208,216	161,647	157,101	163,696
March	114,517	265,869	150,262	183,152	219,443
April	140,997	198,033	40,516	28,299	114,910
May	177,723	238,184	94,344	32,023	115,320
June	161,072	214,356	90,501	53,213	135,009
July	169,991	258,209	84,274	47,993	133,720
August	223,409	213,235	111,935	144,942	167,475
September	223,278	243,080	154,099	112,354	118,659
October	253,447	254,941	160,660	76,284	101,236
November	46,815	243,201	159,908	146,386	99,426
December	141,354	265,153	113,815	181,995	125,082
Total	1,979,381	2,828,041	1,518,912	1,290,024	1,706,267

Buffalo & Susquehanna RR. Shipments.

Shipments of bituminous coal over the Buffalo & Susquehanna RR., for revenue and company use, during 1922 and 1923 were:

	Revenue		Company		Total	
Month	1922	1923	1922	1923	1922	1923
January	80,687	161,185	5,972	11,105	86,659	172,290
February	96,241	145,016	6,868	9,356	103,109	154,372
March	74,700	164,995	12,042	10,979	86,742	175,974
April	15,572	87,959	27	7,594	15,599	95,553
May	9,158	108,588	673	5,567	9,831	114,155
June	12,804	119,754	1,709	6,530	14,513	126,284
July	6,840	114,469	437	6,499	7,277	120,968
August	33,571	134,576	2,495	8,200	36,066	142,776
September	110,427	119,484	4,228	7,394	114,655	126,878
October	93,824	118,994	6,324	7,203	100,148	126,197
November	121,813	124,998	6,797	8,324	128,610	133,322
December	141,953	132,244	8,786	8,218	150,739	140,462
Total	797,590	1,532,262	56,358	96,969	853,948	1,629,231

Central Canada Coal Imports, 1923

Area	Anthracite	Bituminous	Area	Anthracite	Bituminous
Quebec	105,544	219,650	Kingston	141,378	239,740
Montreal	1,690,829	2,852,394	Toronto	2,190,918	6,176,010
Ottawa	344,035	917,727	Windsor	387,280	3,211,000
Total net tons				4,859,984	13,616,521

During 1923, 6,725 tons of bituminous coal were exported from New Orleans and 12,110 tons of coke. Bunker tonnage supplied to foreign vessels amounted to 304,357 tons.

Virginian Railway Shipments.

Shipments of bituminous coal, for revenue and company use, over the Virginian Ry. during the calendar years 1922 and 1923 were:

Month	Revenue		Company		Total	
	1922	1923	1922	1923	1922	1923
January	470,040	614,529	35,155	48,473	505,195	663,002
February	534,907	576,670	36,742	40,796	571,649	617,466
March	662,815	796,851	43,178	49,640	705,993	846,491
April	491,406	712,064	36,088	46,110	527,494	758,174
May	650,180	813,843	38,386	50,246	688,566	864,089
June	682,746	659,129	36,495	41,623	719,241	700,752
July	479,823	658,847	30,505	40,114	510,328	698,961
August	466,245	644,913	32,910	41,415	499,155	686,328
September	458,396	655,347	34,856	41,189	493,252	696,536
October	575,494	598,846	40,588	40,241	616,082	639,087
November	538,497	284,827	43,848	33,849	582,345	318,676
December	543,368	.....	44,049	.....	587,417	405,817
Total	6,553,917	7,015,866	452,800	473,696	7,006,717	7,895,379

Pittsburgh, Shawmut & Northern RR. Shipments.

Shipments of bituminous coal over the Pittsburgh, Shawmut & Northern RR., for revenue and company use, during 1922 and 1923 were:

Month	Revenue		Company		Total	
	1922	1923	1922	1923	1922	1923
January	48,375	76,240	3,247	5,346	51,625	81,586
February	62,002	70,309	3,289	4,289	65,291	74,598
March	58,661	56,992	2,655	4,160	61,316	61,152
April	8,949	42,033	2,637	3,087	11,586	45,120
May	9,356	41,202	1,827	3,401	11,183	44,603
June	15,605	40,819	2,130	2,147	17,735	42,966
July	13,717	39,195	2,041	2,739	15,758	41,934
August	35,177	41,030	1,631	3,219	36,808	44,249
September	114,410	27,728	4,376	2,567	118,786	30,295
October	96,132	30,255	3,498	2,781	99,630	33,036
November	95,098	32,545	4,592	2,704	109,690	35,249
December	99,804	32,105	4,958	3,413	104,762	35,518
Total	657,286	530,453	36,881	39,853	694,167	570,306

1923 tonnage covers only coal originating on this road. 1922 report included tonnage from connecting lines.

During 1922 the State railways of Rio Grande do Sul, Brazil, consumed 102,219 metric tons of domestic and 10,033 metric tons of foreign coal. The wood consumed totaled 513,921 cubic meters, and the total expenditure for fuel was 11,447,425 milreis. There is now in force a standing contract for the delivery of 8,000 metric tons of domestic coal per month.

Huntingdon & Broad Top Shipments.

Shipments of bituminous coal over the Huntingdon & Broad Top Mountain RR., for revenue and company use, during 1922 and 1923 were:

Month	Revenue		Company		Total	
	1922	1923	1922	1923	1922	1923
January	40,910	110,338	1,776	2,828	42,686	113,166
February	49,490	79,210	2,861	2,134	52,351	81,344
March	58,129	97,608	3,327	2,919	61,456	100,527
April	18,109	75,096	162	2,169	18,271	77,265
May	13,200	86,444	3,422	2,100	16,622	88,544
June	27,529	84,125	1,121	2,025	28,650	86,150
July	27,792	81,851	1,572	2,733	29,364	84,584
August	46,326	99,947	2,542	4,432	48,868	104,379
September	110,723	87,259	2,319	1,907	113,042	89,166
October	110,227	74,817	2,462	1,656	112,689	76,473
November	89,082	53,273	3,022	1,227	92,104	54,500
December	81,276	62,390	2,463	1,878	83,739	64,268
Total	672,793	992,358	27,049	28,008	699,842	1,020,366

Central Pennsylvania Coal Production.

Production of coal in the central Pennsylvania field during 1923 and two years previous as reported by the Central Pennsylvania Coal Producers' Associations, (in net tons) was:

Month	Cent. Pa. 1921	Cent. Pa. 1922	United States 1922	% of Cent. Pa. 1922	Cent. Pa. 1923	United States 1923	% of Cent. Pa. 1923
Jan.	3,865,464	3,373,734	37,416,000	09.02	4,776,441	49,463,000	09.66
Feb.	3,238,092	3,864,409	40,952,000	09.44	3,981,736	42,295,000	09.41
March	3,273,834	4,889,328	49,154,167	09.95	4,584,688	47,366,000	09.67
April	2,774,445	661,282	16,985,833	03.89	4,019,754	42,248,348	09.51
May	3,184,479	700,521	20,275,000	03.61	4,251,411	46,605,984	09.12
June	3,282,991	862,303	22,159,165	03.89	4,461,645	45,643,668	09.77
July	2,947,438	781,329	17,015,835	04.59	4,252,354	44,695,333	09.51
Aug.	3,254,964	1,866,354	25,784,497	07.24	4,618,432	48,900,500	09.44
Sept.	3,196,245	4,243,696	41,167,667	10.31	3,885,499	46,620,167	08.33
Oct.	3,893,325	4,782,879	44,450,000	10.76	3,669,882	48,538,500	07.56
Nov.	3,219,666	4,358,137	46,436,666	09.39	3,187,032	43,329,000	07.36
Dec.	2,935,395	4,383,612	45,480,334	09.64	3,484,789	39,427,100	08.84
Total	39,066,338	34,767,584	407,277,164	08.54	49,173,663	545,132,600	09.02
Per Cent of U. S. Production		09.60	08.54			09.02	

Number of vessels passing through the Cape Cod Canal last year was 6,771, as compared with 7,180 in 1922 and 8,140 in 1920, the record year. Probably the majority of these craft were coal barges. Outside of pleasure and fishing vessels, coal barges and the smaller Government vessels, the canal is used chiefly by Eastern Steamship Co., which contributes roughly half of the canal's revenues.

Buffalo, Rochester & Pittsburgh Ry. Shipments.

Shipments of bituminous coal and coke over the Buffalo, Rochester & Pittsburgh Ry. during 12 months, separately and collectively, 1923 and six previous years, were:

Month	1917	1918	1919	1920	1921	1922	1923
Jan. ..	881,154	824,319	839,886	751,666	444,559	421,775	1,128,815
Feb. ..	684,083	865,782	523,973	584,715	357,559	500,715	969,372
Mar. ..	971,337	1,133,596	572,637	854,948	379,387	649,445	997,584
Apr. ..	835,949	1,025,153	354,716	843,338	251,589	185,929	627,210
May ..	955,056	1,005,916	418,432	818,422	325,996	200,396	752,911
June ..	990,084	1,060,890	436,650	836,775	334,738	201,742	727,875
July ..	898,946	1,061,389	600,996	988,540	314,567	151,804	702,577
Aug. ..	998,488	1,080,438	739,066	922,462	374,921	199,428	749,721
Sept. ..	921,974	973,363	810,782	898,449	358,901	531,506	678,352
Oct. ..	1,054,511	906,581	932,285	977,441	439,784	998,215	547,629
Nov. ..	981,575	754,639	220,929	855,562	374,098	1,112,741	525,176
Dec. ..	893,364	957,532	435,326	921,773	392,022	1,085,536	579,764
Total.	11,078,511	11,658,598	6,875,678	10,254,960	4,349,308	6,239,232	8,986,986

The above figures include company tonnage, also coal received from connecting lines. All net tons.

Coke shipments in 1921, 1922 and 1923 were:

Month	1921	1922	1923	Month	1921	1922	1923
January ...	28,029	26,455	25,873	July	6,940	7,285	36,301
February ..	13,283	21,915	36,984	August	8,535	5,541	29,155
March	5,346	23,906	34,996	September..	6,632	6,415	26,894
April	3,037	22,767	32,108	October ...	15,217	12,218	27,544
May	4,364	12,162	33,606	November..	23,925	14,405	22,327
June	6,274	9,044	36,211	December..	27,811	14,908	29,861
				Total....	154,123	177,021	371,860

Carolina, Clinchfield & Ohio Ry. Tonnage.

During the year 1923 and six years previous shipments of coal over the Carolina, Clinchfield & Ohio Ry., by months, were:

Month	1917	1918	1919	1920	1921	1922	1923
January	269,181	212,211	238,107	389,927	285,725	280,411	364,515
February .	212,375	269,472	272,558	298,106	207,409	307,343	298,863
March	236,303	239,709	258,225	339,469	255,602	321,819	352,320
April	230,407	213,103	243,040	334,681	251,445	355,740	388,816
May	237,403	224,765	365,597	310,006	237,442	354,777	394,113
June	235,208	236,207	324,405	335,750	235,315	375,620	357,322
July	191,824	239,986	348,919	358,543	291,224	281,122	363,944
August ...	247,392	219,936	326,959	376,615	285,646	269,908	300,330
September .	220,906	282,325	371,680	379,507	300,651	290,156	395,503
October ..	226,036	279,441	300,629	443,403	325,339	255,672	365,768
November .	208,719	251,581	367,404	374,375	352,466	348,919	335,948
December .	195,735	278,133	369,979	321,045	298,000	279,575	351,127
Total ...	2,721,487	2,946,869	3,877,502	4,261,427	3,326,264	3,821,062	4,268,594

Pennsylvania RR. Tonnage.

Revenue tonnage of anthracite and bituminous coal and coke transported by the Pennsylvania Railroad Company during year 1923 in net tons was:

	Originated	Received from Connections	Total
Bituminous coal	56,962,345	37,167,980	94,130,325
Anthracite "	7,911,801	7,029,203	14,941,004
Coke	9,968,682	1,874,947	11,843,629
Total	74,842,828	46,072,130	120,914,958

We show below revenue freight originating on road in years 1921 and 1922:

	Anthracite		Bituminous	
	1921	1922	1921	1922
Number of carloads.	109,123	76,984	812,428	820,195
Number of short tons	5,787,614	4,166,922	45,410,675	46,370,344
Revenue freight received from connecting roads:				
Number of carloads..	86,985	68,431	444,958	578,564
Number of short tons	4,337,245	3,296,809	23,421,145	30,606,965

These statistics are for the Pennsylvania Railroad System exclusive of the West Jersey & Seashore RR., which, however, does not originate any coal and does not receive any from connecting lines other than the Pennsylvania RR. The figures are therefore in effect System figures. The statistics previously published for 1921 were for the Pennsylvania RR., which then did not include the P. C. C. & St. L. Ry. The 1922 tonnages should, therefore, not be compared with those for 1921.

Norfolk & Western Ry. Shipments.

Shipments of bituminous coal in net tons over the Norfolk & Western Ry., for revenue and company use, during 1922 and 1923 were:

Month	Revenue		Company		Total	
	1922	1923	1922	1923	1922	1923
January	1,922,348	2,221,009	189,944	264,814	2,112,292	2,485,823
February	2,221,496	1,846,328	175,256	250,604	2,396,752	2,096,932
March	2,583,129	2,379,271	217,980	295,619	2,801,109	2,674,890
April	2,626,229	2,226,946	195,716	248,499	2,821,945	2,475,445
May	3,227,751	2,679,794	208,957	236,571	3,436,708	2,916,365
June	3,378,930	2,634,080	221,570	202,167	3,600,500	2,836,247
July	2,188,842	2,672,068	170,154	204,359	2,358,996	2,876,427
August	2,473,784	2,906,959	215,384	227,631	2,689,168	3,134,590
September	2,256,245	2,559,450	199,864	227,739	2,456,109	2,787,189
October	2,148,877	2,705,966	205,631	246,408	2,354,508	2,952,374
November	1,884,466	2,298,522	226,430	252,324	2,110,896	2,550,846
December	2,079,986	2,201,475	245,452	236,730	2,325,438	2,438,205
Total	28,992,083	29,331,868	2,472,338	2,893,465	31,464,421	32,225,333

The total receipts of soft coal at the Duluth-Superior docks for the season were 11,268,000 tons and of hard coal 1,419,000 tons. There was a gain over last season of nearly 7,000,000 tons.

Baltimore & Ohio RR. Shipments.

Shipments of bituminous coal over the Baltimore & Ohio RR., for revenue and company use, during 1922 and 1923 were:

Month	Revenue		Company		Total	
	1922	1923	1922	1923	1922	1923
January	3,094,192	4,462,725	496,211	678,434	3,590,403	5,141,157
February	3,634,705	3,694,719	496,069	644,174	4,130,774	4,338,893
March	4,177,618	4,050,123	553,733	691,580	4,711,351	4,741,703
April	2,102,668	3,720,020	440,915	741,350	2,543,583	4,461,370
May	2,328,596	4,548,500	442,419	713,367	2,771,015	5,261,867
June	2,522,683	4,735,104	445,191	656,146	2,967,874	4,391,250
July	1,533,176	4,511,517	358,784	803,326	1,891,960	5,314,843
August	2,256,715	4,581,441	393,111	785,154	2,649,826	5,366,595
September	3,414,481	4,204,117	410,853	725,766	3,825,334	4,929,883
October	3,902,026	4,239,521	573,755	676,725	4,475,781	4,916,246
November	4,134,276	4,082,419	653,944	670,931	4,788,220	4,753,350
December	4,058,107	3,186,806	675,071	619,457	4,733,178	3,796,263
Total	37,159,243	50,017,012	5,940,056	8,406,410	43,099,299	58,423,422

Chesapeake & Ohio Ry. Shipments.

Shipments of bituminous coal over the Chesapeake and Ohio Ry. for revenue and company use, during 1922 and 1923, were:

Month	Revenue		Company		Total	
	1922	1923	1922	1923	1922	1923
January	1,837,871	2,639,971	202,055	226,896	2,039,926	2,866,867
February	2,672,591	2,269,737	202,981	199,406	2,875,572	2,469,146
March	2,703,143	2,399,044	290,871	239,994	2,994,014	2,639,038
April	2,314,961	2,528,712	188,554	182,890	2,503,515	2,711,602
May	2,729,824	2,992,967	161,822	202,808	2,891,646	3,195,775
June	3,118,330	2,959,869	235,905	181,614	3,354,235	3,141,483
July	2,261,920	3,318,143	151,004	134,142	2,412,924	3,452,285
August	1,939,273	3,398,957	89,671	166,698	2,028,944	3,565,655
September	1,867,251	3,435,452	99,855	138,733	1,967,106	3,574,185
October	1,999,342	3,488,692	136,706	131,229	2,136,048	3,619,921
November	2,307,618	2,892,865	159,755	153,577	2,467,373	3,046,442
December	2,362,408	2,531,652	160,779	135,709	2,523,187	2,667,361
Total	28,114,532	34,856,061	2,074,958	2,093,699	30,194,490	36,949,760

Coal Statistics for Canada.

	Year 1923	3-Year Average 1920-22
Output	16,893,551	15,720,562
Imports	22,687,320	17,724,944
Exports	1,654,406	2,121,360
Coal made available	37,926,465	31,324,146

Ruhr Valley Coal Production.

Statistics from German sources have now been issued giving the output of the Ruhr during 1923. These figures, which do not include the output of mines and coke ovens occupied by the French authorities, show that the following quantities of fuel were produced in the Ruhr during the year:

	Occupied Territory, Tons	Unoccupied Territory, Tons	Total, Tons
Pit coal	34,131,678	7,990,691	42,122,369
Coke	7,250,819	2,099,972	9,350,791
Briquettes	957,638	236,935	1,194,573

The following table shows the total production of 1921, 1922 and 1923, compared with that of the year 1913, in tons:

Month	1913	1921	1922	1923	Coke 1923	Briquettes 1923
January	9,786,005	8,072,912	8,132,763	7,721,957	2,128,752	344,418
February	9,194,112	8,174,606	7,737,974	6,539,356	1,723,284	205,284
March	9,181,430	7,685,185	9,014,278	5,874,499	1,619,408	169,942
April	9,969,560	7,894,985	7,512,646	3,818,872	768,282	107,629
May	9,261,448	6,954,607	8,081,951	2,642,363	507,308	69,912
June	9,586,385	7,753,350	7,078,361	2,099,475	427,173	52,515
July	10,150,347	7,782,676	7,864,200	1,765,931	275,843	32,319
August	9,795,236	8,068,065	8,336,773	1,564,273	265,026	32,047
September	9,696,397	7,853,871	8,265,688	1,727,407	292,200	36,150
October	9,895,090	8,047,353	8,827,126	2,298,854	362,215	28,520
November	8,932,276	7,772,658	8,596,214	1,955,645	628,091	80,300
December	9,101,858	8,054,517	7,900,000	4,293,737		
Year	114,550,153	94,114,785	97,350,000	42,122,369	9,350,791	1,194,573

Coal Exports to Mexico.

Exports of bituminous coal to Mexico, by months, during 1923 and four years previous, with average prices in 1920, 1921, 1922 and 1923 were (gross tons):

	Tonnage					Price			
Month	1919	1920	1921	1922	1923	1920	1921	1922	1923
January	9,845	6,197	32,176	7,177	6,534	$6.15	$8.57	$8.37	$6.66
February	5,142	11,263	25,807	5,254	4,301	6.40	7.66	7.77	6.64
March	5,429	15,696	12,687	7,889	5,568	6.55	6.05	6.03	6.83
April	6,200	17,047	8,289	16,271	11,440	6.76	6.19	6.08	5.18
May	6,810	7,121	7,915	10,918	11,310	5.58	7.07	6.51	5.52
June	14,312	7,003	17,830	5,937	11,560	6.05	7.59	7.47	6.22
July	5,824	16,683	14,499	6,415	11,190	6.27	8.67	6.28	4.62
August	10,953	17,773	13,604	6,052	6,357	6.24	8.04	6.59	6.28
September	10,892	15,847	13,688	4,756	4,876	7.19	7.81	5.35	6.19
October	8,757	20,557	10,377	7,048	5,136	9.56	8.67	6.57	5.00
November	8,932	21,543	8,702	4,683	6,125	8.67	8.09	6.76	5.08
December	8,489	46,261	6,637	8,710	10,251	9.44	8.59	6.36	4.76
Total	101,679	204,991	172,211	91,056	94,648	....	....	....	....

NUMBER OF MINES OPERATED IN 1921

Every State except North Dakota and West Virginia showed a decrease in mines of class 1 in 1921 as compared with 1920. The single mine in that class in North Dakota maintained an output of over 200,000 tons. In West Virginia the number of mines of class 1 increased 1, and the average production per class 1 mine also increased slightly. In Illinois 71.3 per cent of the coal mined came from mines of class 1, and this State was first in percentage of coal mined and first in actual production. Pennsylvania ranked second. Montana ranked second in percentage of coal from mines of class 1 and first in average output per mine. Utah fell to third place in percentage of total coal mined by class 1 mines.

The average output of mines of class 1 throughout the United States rose to 339,008 tons. The output of mines of class 5 averaged 3,123 tons, but as the output of the wagon mines was not included in the tables for 1921 this figure is not comparable with those for the two preceding years. The average output of mines of class 5 (except wagon mines) was 3,896 tons in 1920 and 3,641 tons in 1919.

Number and Production of Commercial Bituminous Coal Mines in the United States in 1921, by Classes.

[Inclusive of wagon mines.]

State	Class 1 (More Than 200,000 Tons)			Class 2 (100,000 to 200,000 Tons)			Class 3 (50,000 to 100,000 Tons)		
	Number	Per Cent of Mines	Per Cent of Output	Number	Per Cent of Mines	Per Cent of Output	Number	Per Cent of Total Mines	Total (Net Tons)
Alabama	13	5.3	33.2	26	10.6	26.8	28	11.4	1,933,000
Arkansas	..	...	...	1	1.3	13.0	3	3.9	226,000
Colorado	7	3.3	20.5	24	11.3	36.4	32	15.0	2,249,000
Illinois	123	18.2	71.3	82	12.2	17.3	59	8.8	4,303,000
Indiana	29	10.5	44.5	42	15.2	28.9	47	17.0	3,370,000
Iowa	3	2.0	18.5	6	3.9	18.0	24	15.7	1,641,000
Kansas	..	...	...	4	2.9	13.7	20	14.6	1,336,000
Kentucky	18	2.6	20.3	80	11.6	35.2	110	15.9	7,690,000
Maryland	..	...	...	4	4.6	28.9	8	9.2	599,000
Michigan	1	7.1	22.9	5	35.7	52.1	1	7.1	64,000
Missouri	..	...	...	5	2.9	17.3	19	11.1	1,387,000
Montana	4	6.9	61.2	4	6.9	21.4	2	3.4	145,000
New Mexico	2	4.9	22.1	5	12.2	24.9	15	36.6	1,040,000
North Dakota	1	1.7	26.0	...	...	...	3	5.0	186,000
Ohio	40	4.9	38.4	68	8.3	30.4	66	8.0	4,671,000
Oklahoma	..	...	...	6	4.5	25.5	14	10.6	970,000
Pennsylvania	131	5.5	37.2	226	9.4	29.3	274	11.4	19,322,000
Tennessee	1	.7	6.5	11	7.7	33.7	14	9.8	917,000
Texas	..	...	...	1	2.8	10.7	4	11.1	224,000
Utah	8	22.2	58.2	8	22.2	31.3	4	11.1	315,000

Virginia	10	9.5	54.3	13	12.4	23.3	10	9.5	704,000
Washington	4	7.9	54.1	2	3.9	13.3	7	13.7	450,000
West Virginia...	75	5.7	29.2	163	12.4	31.4	227	17.2	16,556,000
Wyoming	12	19.0	41.9	21	33.3	43.5	12	19.1	862,000
	482	6.0	39.1	807	10.0	27.8	1,003	12.5	71,160,000

Details of class 3 are shown to secure uniformity of style. Total for class 1, 162,438,000 tons; total for class 2, 115,607,000 tons.

	Class 4 (10,000 to 50,000 Tons)			Class 5 (Less Than 10,000 Tons)			Total	
	Mines		Production Per Cent of Output	Mines		Production Per Cent of Output	Mines	Production (Net Tons) Total
State	Number	Per Cent		Number	Per Cent			
Alabama	110	44.7	22.6	69	28.0	2.0	246	12,569,000
Arkansas	29	37.7	56.7	44	57.1	11.9	77	1,228,000
California, Idaho, Alaska and Oregon	4	21.1	80.9	15	78.9	19.1	19	115,000
Colorado	63	29.6	16.1	87	40.8	2.3	213	9,123,000
Georgia	1	100.0	100.0	...	...	...	1	34,000
Illinois	116	17.3	4.1	292	43.5	1.1	672	69,603,000
Indiana	63	22.7	8.4	96	34.6	1.6	277	20,319,000
Iowa	45	29.4	21.6	75	49.0	5.7	153	4,531,000
Kansas	57	41.6	42.6	56	40.9	5.2	137	3,467,000
Kentucky	226	32.8	17.6	256	37.1	2.6	690	31,588,000
Maryland	25	28.7	30.4	50	57.5	7.9	87	1,828,000
Michigan	6	42.9	18.8	1	7.2	.6	14	1,142,000
Missouri	57	33.3	35.6	90	52.7	8.1	171	3,551,000
Montana	11	19.0	8.4	37	63.8	3.7	58	2,734,000
New Mexico.....	9	22.0	9.6	10	24.3	1.04	41	2,453,000
North Carolina.....	1	100.0	100.0	...	...	...	1	23,000
North Dakota.....	18	30.0	38.2	38	63.3	14.3	60	865,000
Ohio	182	22.1	12.5	466	56.7	4.1	822	31,943,000
Oklahoma	64	48.5	40.8	48	36.4	4.8	132	3,363,000
Pennsylvania	680	28.4	13.7	1,086	45.3	3.1	2,397	116,014,000
South Dakota.....	..	...	...	18	100.0	100.0	18	8,000
Tennessee	63	44.0	34.6	54	37.8	4.6	143	4,460,000
Texas	27	75.0	63.9	4	11.1	2.4	36	973,000
Utah	4	11.1	2.1	12	33.4	.7	36	4,079,000
Virginia	35	33.3	11.3	37	35.3	1.7	105	7,492,000
Washington	10	19.6	10.3	28	54.9	3.8	51	2,429,000
West Virginia.....	433	32.9	14.8	420	31.8	1.9	1,318	72,787,000
Wyoming	7	11.1	2.1	11	17.5	.5	63	7,201,000
	2,346	29.2	13.5	3,400	42.3	2.5	8,038	415,922,000

Total for class 4, 56,099,000 tons; total for class 5, 10,618,000 tons.

BITUMINOUS COAL EXPORTS

Increase of Eight Million Tons Over Exports in 1922—Big Gains to Canada and Europe.

Exports of bituminous coal from the United States to various countries throughout the world during 1923 and five years previous were (gross tons):

Country	1918	1919	1920	1921	1922	1923
Europe—						
Austria Hungary	.....	212	16,963	18,804	.....	.....
Azores and Madeira Islands	.....	32,856	47,643	86,802	.....	.....
Belgium	.....	200	174,575	23,709	.....	81,500
Bulgaria	.....	.....	.....	20,042	.....	.....
Czechoslovakia	.....	.....	.....	6,722	.....	.....
Denmark	.....	88,903	966,649	153,923	3	.....
France	8,098	532,443	3,646,349	607,531	12,012	842,671
Roumania	.....	.....	8,248	2	.....	.....
Poland and Danzig	.....	.....	6,762	.....	.....	.....
Finland	.....	.....	27,883	821	.....	.....
Germany	.....	8,540	75,791	38,654	2,624	335,511
Gibraltar	896	14,338	82,341	126,268	.....	.....
Greece	3,241	48,110	231,336	96,124	9,931	38,161
Iceland and Faroe Islands	.....	.....	47,422	13,885	.....	.....
Italy	11,193	1,632,994	2,357,734	1,549,460	124,083	578,626
Latvia	.....	.....	.....	.....	.....	11,838
Malta, Gozo and Cyprus Islands	.....	.....	.....	6,250	.....	.....
Netherlands	18,493	722,991	2,146,937	334,090	4,057	378,936
Norway	.....	159,842	736,270	42,484	.....	2,539
Portugal	5,421	35,878	164,414	100,179	1,269	.....
Russia in Europe	.....	.....	61,713	87,338	.....	.....
Spain	.....	18,623	65,883	58,486	.....	36,597
Sweden	.....	252,891	1,226,480	67,015	.....	51,622
Switzerland	.....	528,575	812,332	63,944	.....	.....
Turkey	.....	4,005	94,401	19,157	.....	.....
United Kingdom—						
England	1,221	8,038	33,346	1,016,850	145	24,773
Ireland	.....	.....	.....	405,640	.....	.....
Scotland	.....	.....	19,732	74,396	.....	17,961
	48,563	4,089,439	13,001,137	4,984,574	154,124	2,401,134
North America—						
Bermuda	23,499	19,438	49,153	32,802	14,257	15,121
British Honduras	77	601	1,129	696	1,696	1,358
Canada	18,134,328	10,670,490	14,481,844	13,915,377	9,677,320	15,037,454
Costa Rica	1,753	1,717	13,707	3,226	2,205	2,985
Guatemala	259	3,893	1,054	1,778	598	120

Country	1918	1919	1920	1921	1922	1923
Honduras	7,983	8,367	15,670	14,140	5,814	1,535
Nicaragua	2,812	2,026	919	1,826	874	3,548
Panama	564,624	72,097	155,042	122,829	108,193	19,265
Salvador	4	2,243	8,840	39	30	3
Greenland	787	1,217	1,052	710	200	.....
Mexico	209,870	101,585	204,991	172,211	91,056	94,648
Miquelon, etc.	.....	.....	2,000	.....	.....	8,458
Newfoundland and Labrador	2,174	8,418	25,397	4,880	2,132	33,583
West Indies—						
Barbados	81,240	103,424	73,461	19,763	18,664	23,452
Jamaica	25,400	33,038	82,455	58,652	27,704	31,281
Trinidad & Tobago.	33,823	28,038	48,347	7,766	12,445	21,306
Other British W. I.	33,823	28,038	48,347	7,766	12,445	22,210
Cuba	1,613,312	971,399	1,322,632	523,572	463,858	610,619
Danish	24,169	13,877	2,212	.....	.....	.....
Dominican Republic	33,774	13,693	12,260	8,443	7,047	4,156
Dutch	18,757	24,694	40,377	12,201	28,870	58,823
French	41,951	23,934	45,461	55,821	53,995	77,006
Haiti	1,011	.....	1	71	3	2,617
Virgin Islands	.....	469	40,159	23,720	14,003	31,333
	20,818,014	12,135,977	16,636,600	12,844,066	10,548,580	16,112,301
South America—						
Argentina..	200,367	483,389	1,746,007	746,439	78,971	130,765
Bolivia	.....	.....	.....	.....	.....	521
Brazil	626,191	642,109	966,029	527,225	152,976	303,412
Chile	336,069	123,860	494,121	150,844	46,916	19,629
Colombia	1,097	11,835	6,318	11,488	5,627	4,055
Ecuador	2,398	2,948	4,226	4,222	4,119	1,998
Falkland Islands...	9,975	15,208	3,073	.....	.....	.....
Guiana:						
British	5,333	3,846	15,934	3,447	3,252	10,966
Dutch	898	1,001	2,896	2,462	1,901	2,374
French	11	.....	.....	.....	.....	.....
Peru	24,249	45,819	35,382	28,152	13,829	10,020
Paraguay	.....	.....	6,945	.....	.....	.....
Uruguay	256,434	194,197	267,807	80,390	.....	29,295
Venezuela	2,417	496	2,825	6,649	23	4,144
	1,465,439	1,524,703	3,551,563	1,569,318	307,614	517,179
Asia—						
Far Eastern Republic	.....	.....	.....	.....	11	.....
China	.....	.....	10	6,556	11	.....
Aden	.....	.....	15,869	.....	.....	.....
Turkey	.....	.....	11,746	17,127	.....	2,519
Dutch East Indies..	.....	13,221	.....	7,788	.....	.....

Country	1918	1919	1920	1921	1922	1923
Palestine and Syria	.....	.....	.....	6,781	.....	.....
Russia in Asia	.....	3	5	40	8	.....
	.....	13,221	64,274	31,511	30	2,519
Oceania—						
Other British	3	5	.....	10	.....	.....
Philippine Islands	38	.....	1	8,535	.....	.....
Australia	.....	.....	.....	.....	.....	16,547
New Zealand	.....	50,034	35,641	59,831	.....	1,417
Dutch East Indies	.....	.....	1,103	.....	.....	.....
	41	50,040	36,745	68,376	.....	17,964
Africa—						
British Africa:						
West	2,334	4,159	3,553	6,642	30	1,021
South	.....	16,100	.....	.....	.....	.....
East	.....	16,100	.....	.....	.....	.....
Algeria	.....	.....	.....	.....	7,026	69,683
Kamerun, etc.	.....	.....	6,396	.....	.....	.....
Italian	.....	5,166	.....	.....	.....	.....
Canary Islands	7,315	1,819	58,646	172,297	1,591	2,189
Egypt	.....	37,543	626,530	476,200	52,118	22,966
French Africa	2,407	52,001	239,156	182,809	20,198	14,027
Morocco	.....	.....	.....	12,685	.....	.....
Portuguese Africa	6,617	55,430	32,408	59,182	.....	.....
	18,673	174,286	976,561	899,811	80,963	109,886
Grand Total	22,350,730	17,987,666	34,269,735	20,660,933	11,083,112	19,160,983
Recapitulation—						
Europe	48,563	4,089,439	13,011,137	4,985,574	154,124	2,401,134
North America	20,818,014	12,135,977	16,636,600	12,853,867	10,548,580	16,112,301
South America	1,465,439	1,524,703	3,551,563	1,569,318	307,614	517,179
Asia	.....	13,221	64,274	31,551	30	2,519
Oceania	41	50,040	36,745	68,876	.....	17,964
Africa	18,673	174,286	976,561	912,615	80,963	109,886
Grand Total	22,350,730	17,987,666	34,269,735	20,660,933	11,083,112	19,160,983

Welsh Coal Analyses.

To permit comparisons being made with American smokeless coal, the following figures are presented showing the analyses of three different samples of the Cardiff coal designated as Best Admiralty Large:

	Per Cent	Per Cent	Per Cent
Fixed Carbon	81.90	80.80	79.50
Volatile	12.13	13.60	15.11
Ash	4.86	4.55	4.23
Water	1.11	1.05	1.16
	100.00	100.00	100.00

	Per Cent	Per Cent	Per Cent
Sulphur	.79	.89	.98
Calories	82.66	82.76	82.79
B. T. U.	14,879	14,897	14,902
Evaporative Power	15.39	15.41	15.41

The coals coming under the head of Best Admiralty are: Cambrian, Dowlais, Ferndale, Glamorgan (Hoods), Hills Plymouth, Lockets, Naval, Nixons, Ocean, Penrikyber, Standard, Cyfarthfa, and National.

COAL AND COKE SHIPMENTS BY CUSTOMS DISTRICTS

Large Increase Shown in 1923 Over Record of Strike Year 1922.

Below is a statement for the calendar years 1922 and 1923 which shows in concise form the business done in coal and coke from each of the several customs districts in gross tons:

	Anthracite		Bituminous		Coke	
	1922	1923	1922	1923	1922	1923
Philadelphia	42,459	52,956	125,847	303,146	14,478	136,545
Maryland	10,995	9,302	92,626	1,379,355	14,235	170,091
New York	60,278	76,269	7,808	14,888	6,415	13,006
South Carolina	.....	3,084	122,111	234,301	.....	.....
Virginia	.....	6,956	841,039	2,334,574	2,029	11,752
Mobile	125	.....	14,552	9,107	9,293	7,715
New Orleans	211	52	8,705	6,725	9,987	12,110
Arizona	3,019	377	19,926	36,401	27,101	55,253
El Paso	1,088	1,722	45,124	33,174	3,692	9,497
San Francisco	128	35	5,225	2,354	140	99
San Diego	58	1	178	29	1	1
Los Angeles	2	155	.....	80	.....	64
Washington	122	2,308	11,001	13,261	277	20
Florida	488	147	47,709	32,161	2,972	5,440
Sabine	.....	.....	48	30	24	5,994
Galveston	1	.....	188	.....	43	.....
Georgia	.....	.....	.....	.....	689	.....
San Antonio	1,081	1,435	2,252	2,453	2,954	3,377
Buffalo	1,133,732	2,339,029	2,690,841	3,453,419	176,817	357,676
Dakota	9,098	36,044	23,170	78,557	25,307	22,644
Duluth-Superior	3,573	20,251	55,493	55,731	2,999	2,584
Michigan	3,417	7,047	1,250,094	1,719,923	129,466	173,189
Ohio	11,975	35,474	3,822,580	6,342,868	3,356	58,588
Rochester	244,502	457,530	451,317	655,366	245	1,580
St. Lawrence	731,269	1,420,640	1,274,181	2,483,862	8,998	31,308
Vermont	7,024	12,610	5,640	14,216	8,073	13,516
Maine & New H.	725	364	1,393	10,293	2,466	4,137
Massachusetts	636	362	25	303	.....	25
Connecticut	30	43	74	.....	.....	.....
Wisconsin	.....	.....	100	.....	.....	.....
Montana & Idaho	.....	.....	.....	30	.....	.....
Total to Canada	2,296,333	4,454,419	9,677,320	15,037,454	366,828	667,220
Total	2,365,187	4,544,766	11,073,112	19,154,881	456,733	1,102,376

Totals include small tonnage from Porto Rico, Alaska and Hawaii.

In 1923 exports from the Mobile customs district were 9,107 tons of bituminous coal and 7,715 tons of coke. Tonnage supplied for bunker purposes amounted to 86,143 tons.

Bituminous Coal Exports to West Indies.

Exports of bituminous coal to Cuba and other West Indies, by months, during 1923 and six years previous, were (gross tons):

Tonnage to Cuba.

Month	1917	1918	1919	1920	1921	1922	1923
January	110,467	76,938	103,639	99,620	55,033	41,240	59,664
February	124,783	145,104	40,644	130,846	42,213	50,101	55,511
March	151,246	170,087	38,107	115,982	74,963	57,258	51,173
April	112,802	212,355	58,173	118,654	28,346	47,144	51,713
May	153,750	137,048	90,112	113,861	14,345	38,020	43,608
June	115,091	110,959	84,198	107,609	71,750	17,517	39,929
July	51,193	105,137	75,085	94,019	33,282	22,500	57,530
August	217,524	105,408	108,216	123,610	48,318	10,629	46,807
September ...	80,302	98,022	140,546	125,156	31,748	31,709	47,382
October	117,615	89,941	115,366	115,380	43,328	48,702	52,680
November ...	77,315	99,679	59,835	117,976	28,014	34,973	32,665
December	98,497	89,779	57,478	69,919	53,262	64,065	71,957
Total	1,410,594	1,440,457	977,399	1,322,632	524,572	463,858	610,619

Tonnage to Other West Indies.

Month	1917	1918	1919	1920	1921	1922	1923
January	65,712	9,089	16,360	23,212	10,273	10,872	6,253
February	13,313	13,313	16,965	31,485	3,848	437	209
March	55,507	45,213	31,548	42,720	1,335	19,237	7,924
April	41,174	28,063	31,302	34,843	16,374	21,313	9,517
May	37,382	25,717	11,914	17,670	2,986	12,018	17,219
June	34,483	25,944	30,136	15,819	14,421	6,593	21,987
July	25,805	19,438	21,675	23,335	7,792	5,263	15,003
August	19,373	12,367	36,799	35,917	7,355	7,899	6,707
September ...	23,473	21,026	29,699	38,324	3,653	1	17,833
October	22,173	12,064	37,157	30,063	7,827	6,704	21,923
November ...	33,290	21,028	10,345	44,715	12,452	2,937	22,068
December	28,566	21,239	19,633	32,124	11,940	10,644	23,343
Total	402,812	254,501	274,511	422,313	100,256	103,918	169,986

The origin of petroleum in nature is still undetermined. It might well have been formed from the vegetable matter that is now represented by coal beds, but for the fact that there is much more hydrogen in the petroleum than in the gases from the vegetable remains. Recent experiments tend, however, to support this idea. By exposing coal to hydrogen under a pressure of 5,000 pounds to the square inch, remarkable exothermic reaction takes place that results in a fluid indistinguishable from crude petroleum. This opens up an interesting field for speculation as to the possibility of converting solid fuel to liquid fuel on a commercial scale.

GROWTH OF EXPORT TRADE

Great Increase in Tonnage Movement in Past Thirty-Odd Years.

Frequently statistics are presented covering so brief a period that in these times of unusual coal trade conditions, we overlook the great change that has taken place in the progress of the trade. The trend of events is often best illustrated by a tabulation extending over a considerable period of years.

Such information is particularly useful with regard to our export trade, in which there has been so notable a growth during the past generation. While for many years exports of coal were very largely to Canada only, so far as any material volume of business was concerned, even the Canadian trade was very small back in the '80s.

The facts in connection with this line of business are well illustrated by the statistical data presented below, showing first the aggregate exports of bituminous coal, and in the second instance the exports to Canada, both anthracite and bituminous:

Exports of Bituminous Coal.

Year	Gross Tons	Year	Gross Tons	Year	Gross Tons
1923	19,154,981	1911	13,874,754	1899	3,478,976
1922	11,083,112	1910	10,784,239	1898	2,682,414
1921	20,660,933	1909	9,693,843	1897	2,384,069
1920	34,269,735	1908	9,100,819	1896	2,246,284
1919	17,987,666	1907	10,448,676	1895	2,374,988
1918	22,350,730	1906	7,704,850	1894	2,178,321
1917	23,839,558	1905	6,959,265	1893	1,773,556
1916	18,490,603	1904	6,345,126	1892	1,700,496
1915	16,565,043	1903	6,303,241	1891	1,474,727
1914	13,801,850	1902	5,400,694	1890	1,138,681
1913	17,986,757	1901	5,763,469	1889	841,798
1912	14,459,987	1900	5,411,329	1888	780,248

Exports to Canada.

Year	Anthracite, Gross Tons	Bituminous, Gross Tons	Year	Anthracite, Gross Tons	Bituminous, Gross Tons
1923	4,454,419	15,027,454	1913	3,890,267	13,268,383
1922	2,296,333	9,677,320	1912	3,435,765	10,258,336
1921	3,938,559	11,758,634	1911	3,498,980	10,609,587
1920	4,435,933	14,481,844	1910	2,963,788	7,567,297
1919	4,349,164	10,270,490	1909	2,802,361	6,980,213
1918	4,190,226	13,016,820	1908	2,710,308	6,542,635
1917	5,025,185	16,192,714	1907	2,648,769	7,194,546
1916	3,862,505	12,849,589	1906	2,176,342	5,357,004
1915	3,230,285	8,464,457	1905	2,187,450	4,777,180
1914	3,568,050	9,199,016	1904	2,193,746	4,384,208

British Ports' Foreign Shipments.

Shipments of coal to foreign countries, British Dominions and possessions from the various districts in the United Kingdom monthly during 1923 and yearly for four years previous are shown below:

Month	Bristol Channel Ports Tons	North-western Ports Tons	North-eastern Ports Tons	Humber Ports Tons	Other Ports on East Coast Tons
January	2,427,577	54,037	1,886,184	542,446	34,833
February	2,313,919	62,859	2,040,125	554,189	46,634
March	2,741,405	130,733	2,262,133	844,974	71,298
April	2,551,019	245,978	1,905,579	818,812	73,130
May	2,831,569	324,349	2,333,303	1,031,243	81,334
June	2,635,166	237,883	1,979,909	701,132	71,984
July	2,625,617	206,579	2,178,644	789,379	79,387
August	2,377,447	140,725	2,192,050	794,444	51,055
September	2,334,098	117,851	2,049,070	773,854	71,504
October	2,612,231	193,387	2,411,027	1,016,780	70,838
November	2,421,686	213,011	2,191,164	852,378	71,222
December	2,248,208	173,915	1,937,411	643,693	57,743
Total (1923)	30,119,942	2,101,307	25,366,599	9,363,324	780,962
1919	20,229,802	86,728	11,701,435	530,471	49,389
1920	15,470,392	8,220	7,508,854	470,233	137,955
1921	12,246,650	88,382	8,730,221	1,126,675	47,892
1922	25,633,826	776,171	22,596,218	5,884,668	389,617

Month	Other English Ports Tons	East Scotland Tons	West Scotland Tons	Ireland Tons	United Kingdom Tons
January	34	533,064	133,495	....	5,611,670
February	....	692,302	192,602	....	5,902,630
March	10	936,253	193,296	....	7,180,102
April	....	936,450	308,127	2,328	6,841,423
May	....	861,867	214,285	6,455	7,684,405
June	20	756,406	199,336	6,815	6,588,651
July	....	665,629	217,495	4,525	6,767,255
August	....	790,899	229,390	4,400	6,580,410
September	10	779,492	181,493	9,024	6,316,396
October	....	860,227	258,955	9,423	7,432,868
November	....	734,272	175,713	10,457	6,669,903
December	15	647,817	156,943	8,220	5,873,965
Total (1923)	89	9,194,678	2,461,130	61,647	79,449,678
1919	668	1,905,176	745,899	....	35,249,568
1920	212	1,227,374	108,613	....	24,931,853
1921	135	1,996,857	423,740	....	24,660,552
1922	1,790	7,024,648	1,891,446	....	64,198,384

Powdered or pulverized coal is extensively used as a fuel, the total annual consumption in the United States being about 12,000,000 tons, and growing steadily.

Coal Exports to Brazil.

Exports of bituminous coal to Brazil, by months, during 1923 and four years previous, with average price for 1920, 1921, 1922 and 1923 were (gross tons):

Month	1919	1920	1921	1922	1923	Aver. Price 1920	1921	1922	1923
January	55,546	48,205	35,651	12,365	....	$6.47	$7.98	$6.04	...
February	67,825	47,241	42,208	16,920	....	6.45	6.96	5.67	...
March	60,296	65,276	52,801	40,492	6,579	6.80	6.76	5.23	7.50
April	70,333	72,325	90,999	38,864	16,107	6.99	6.81	4.95	6.61
May	109,868	73,190	103,474	19,898	53,397	8.58	6.88	5.46	6.73
June	100,778	64,055	57,127	11,050	47,326	9.66	6.53	6.47	6.46
July	64,595	83,468	27,525	12,544	42,508	14.29	6.58	6.67	5.78
August	2,900	111,317	41,419	....	7,411	15.30	6.56	...	5.34
September ...	20,722	135,561	24,411	....	38,106	12.99	6.16	...	6.43
October	71,957	98,240	15,892	....	31,664	13.65	6.09	...	5.24
November ...	14,699	115,295	21,226	....	24,285	14.19	5.51	...	4.88
December ...	4,590	50,396	12,492	....	35,849	14.55	6.10	...	5.01
Total	634,109	966,029	527,225	152,133	310,724	...	...	...	...

The yearly consumption of coal in Brazil is approximately 1,250,000 tons, but would be much more if it were possible to obtain the full amount desired. It is used chiefly by steamships, railways, gas and electric light plants, and other industries in the following proportions:

Bunkering, 50 per cent; railways, 25 per cent; gas and electric light plants, 15 per cent; and other industries, 10 per cent.

Coal Exports to Panama.

Exports of bituminous coal to Panama during 1923 and four years previous, with average price for 1920, 1921, 1922 and 1923 were (gross tons):

Month	1919	1920	1921	1922	1923	Aver. Price 1920	1921	1922	1923
January	6,135	34,067	51,452	9,625	9,440	$5.97	$7.39	$6.00	$6.00
February	8,661	30,692	47,469	....	....	6.05	7.99	...	...
March	5,290	18,306	19,657	....	....	5.97	8.00	...	...
April	19,088	19,048	19,829	9,390	9,800	7.00	7.04	6.00	6.00
May	....	....	....	6,477	....	...	...	6.00	...
June	....	10,167	8,522	19,101	....	8.00	7.11	6.00	...
July	....	9,899	18,149	7,025	....	8.10	6.00	6.00	...
August	....	....	9,611	9,595	....	...	6.00	6.00	...
September	2,745	....	9,606	19,163	....	...	6.00	6.00	...
October	5,396	10,741	19,229	9,485	....	8.05	6.00	6.00	...
November	8,482	3,644	9,627	9,622	....	8.97	6.00	6.00	...
December	16,300	18,478	9,678	4,975	25	8.94	5.99	5.76	7.00
Total	72,097	155,042	122,829	104,458	19,265	...	...	...	...

Nearly 30,000 miners in the United States have been granted certificates for their proficiency in the use of mine rescue apparatus after a course of training by instructors of the U. S. Bureau of Mines. Several thousand other miners have been trained by State mining departments and mine operators.

Coal Imports by South America.

We give below data from official sources relative to shipments of coal from the United States and from Great Britain to the principal countries of South America during a term of years. It is interesting to note how the tonnage from this country grew following the outbreak of the war:

From United States.

To	1917	1918	1919	1920	1921	1922	1923
Argentina ..	317,563	178,899	483,389	1,746,007	746,439	78,971	130,765
Bolivia	.....	.....	.....	.....	.....	.....	521
Brazil	685,142	559,089	642,109	966,029	527,225	152,976	303,412
Chile	354,340	336,069	123,860	494,121	150,844	46,916	19,629
Peru	18,304	24,249	45,819	35,382	28,152	13,828	10,020
Paraguay ..	.....	.....	.....	6,945	.....	.....	.....
Uruguay ..	67,411	256,434	194,197	267,807	88,390	.....	29,295
Venezuela..	944	2,417	496	2,825	6,649	23	23
Total....	1,433,704	1,357,157	1,489,870	3,519,116	1,547,699	292,314	493,665

From Great Britain.

To	1917	1918	1919	1920	1921	1922	1923
Argentina ..	309,216	258,110	639,089	273,668	887,344	2,021,092	2,461,074
Brazil	237,516	169,982	189,205	158,144	242,223	1,013,221	1,151,629
Chile	13,154	9,000	7,294	7,122	22,624	84,311	19,091
Peru	.....	.....	.....	.....	7,244	21,481	17,286
Uruguay ..	199,692	162,417	184,813	117,480	221,817	502,533	404,894
Venezuela..	.....	.....	.....	.....	.....	851	479
Total....	759,578	599,509	1,020,401	556,414	1,381,249	3,643,489	4,054,453

St. Lawrence District Coal Exports.

Exports of coal and coke from the St. Lawrence customs district, by months, during calendar years 1922 and 1923, were:

Month	Anthracite		Bituminous		Coke	
	1922	1923	1922	1923	1922	1923
January	57,871	108,787	113,509	184,166	677	6,146
February	86,999	97,929	170,457	150,077	683	2,811
March	67,056	154,447	287,217	288,295	698	3,729
April	53,079	160,276	138,217	206,573	712	2,265
May	21,989	146,336	11,579	279,746	303	2,995
June	14,389	127,046	12,087	288,609	329	1,067
July	3,247	136,143	8,393	159,742	260	881
August	6,959	115,843	7,535	219,971	1,029	4,064
September	29,148	73,623	17,918	222,873	1,471	1,011
October	102,905	121,154	82,369	185,839	515	1,387
November	143,665	118,844	162,985	152,879	1,064	4,437
December	143,962	110,212	261,895	145,092	1,257	515
Total	731,269	1,420,640	1,274,181	2,483,862	8,998	31,308

FUEL OIL FOR BUNKER PURPOSES

The amount of fuel oil loaded on vessels engaged in the foreign trade at ports in the United States, by months, during the past six years, was in barrels, as follows:

Month	1918	1919	1920	1921	1922	1923
January	448,635	620,149	1,726,428	1,980,963	2,328,190	2,778,440
February	387,965	682,226	1,548,416	1,997,447	2,422,799	2,526,475
March	523,794	715,580	1,724,832	2,462,821	2,620,023	3,140,217
April	487,882	861,790	1,844,818	2,176,306	2,713,156	3,173,168
May	555,317	1,126,153	1,973,004	2,001,322	2,544,699	3,198,746
June	599,765	1,048,059	2,057,420	2,778,339	2,859,342	3,456,628
July	653,251	1,023,237	2,378,298	2,437,313	2,614,132	2,986,687
August	552,860	1,603,583	2,576,669	2,164,279	2,673,479	3,436,919
September ...	600,519	1,143,182	2,474,808	2,253,425	2,796,621	3,256,731
October	694,129	1,470,918	2,514,536	2,265,090	2,716,684	3,503,854
November ...	536,554	1,814,961	2,837,840	2,167,856	2,742,722	3,140,011
December ...	562,372	1,926,508	2,667,714	2,341,919	2,660,408	3,045,613
Totals....	6,578,141	14,031,356	26,334,883	27,076,138	31,692,201	37,581,845

The above figures show that the coal trade engaged in the bunker business has a growing competition to meet with. The consumption of fuel oil for bunker purposes has increased 25,783,882 barrels for the 12 months of 1922, compared with twelve months of 1917, or 434.8 per cent. For the 12 months of 1922, compared with 1920, there was an increase of 5,357,318 barrels, or 20.3 per cent.

Total for 1917 was 5,908,319; 1916. 5,529,787 barrels.

FOREIGN BUNKER COAL

Bunker coal loaded (monthly) on vessels engaged in foreign trade for 1923 and five years previous was:

Month	1918	1919	1920	1921	1922	1923
January	426,082	487,998	616,905	721,907	378,654	320,495
February	415,303	417,841	512,886	577,315	358,544	314,948
March	432,474	457,413	771,602	608,607	414,952	361,747
April	389,912	682,592	696,017	241,054	401,172	346,487
May	425,796	670,001	767,346	803,903	420,486	457,700
June	468,779	672,669	836,453	811,938	365,282	435,433
July	548,792	659,155	820,382	786,063	321,742	430,213
August	530,293	767,905	866,235	641,311	260,408	451,962
September ...	503,608	783,807	830,789	513,598	260,293	392,528
October	522,204	724,024	973,369	469,567	294,643	369,199
November ...	425,447	613,851	845,495	413,811	331,643	351,016
December ...	443,385	505,478	824,699	449,957	312,388	310,655
Total.....	5,626,175	7,342,734	9,362,178	7,547,518	4,120,207	4,547,343

Coal and Coke Shipped to Canada.

Exports of coal, anthracite and bituminous, and coke from the northern border of the United States to Canada, from customs districts, during 1922 and 1923 (gross tons), were:

	Anthracite		Bituminous		Coke	
	1922	1923	1922	1923	1922	1923
Buffalo	1,133,732	2,339,029	2,690,841	3,453,419	176,817	357,676
Dakota	9,098	36,044	23,170	78,557	25,307	22,644
Duluth-Superior	3,573	20,251	55,493	55,731	2,999	2,584
Michigan	3,417	7,047	1,250,094	1,719,923	129,466	173,189
Ohio	11,975	35,474	3,822,580	6,342,868	3,356	58,588
Rochester	244,502	457,530	451,317	655,366	245	1,580
St. Lawrence	731,269	1,420,640	1,274,181	2,483,862	8,998	31,308
Vermont	7,024	12,610	5,640	14,216	8,073	13,516
Maine & New H.	725	364	1,393	10,293	2,446	4,137
Massachusetts	636	362	25	303	.....	25
Connecticut	30	43	74	.....	.....	.....
Montana & Idaho	.....	.....	.....	30	.....	.....
Wisconsin	.....	.....	100	.....	.....	.....
Total	2,296,333	4,329,394	9,677,320	15,314,568	366,828	665,247

Exports of anthracite and bituminous coal and coke from the United States to Canada, by months, during 1922 and 1923 were:

	Anthracite		Bituminous		Coke	
Month	1922	1923	1922	1923	1922	1923
January	219,256	347,337	526,016	1,001,650	23,830	65,859
February	261,466	323,150	660,796	730,112	23,415	58,142
March	272,951	393,247	975,321	919,228	22,339	65,060
April	108,112	413,392	453,406	889,900	16,587	61,165
May	55,745	438,889	272,146	1,582,879	18,804	62,238
June	39,017	411,515	427,849	1,822,723	19,517	45,663
July	15,075	437,236	290,018	1,697,580	21,684	49,728
August	28,284	435,801	373,589	1,753,972	20,756	68,364
September	87,420	167,765	1,110,794	1,513,923	29,029	72,110
October	399,763	398,330	1,647,323	1,247,952	29,910	52,370
November	433,723	359,238	1,563,983	1,027,066	31,009	34,898
December	375,521	328,519	1,376,079	850,469	109,848	31,623
Total	2,296,333	4,454,419	9,677,320	15,037,454	366,828	667,220

The average prices per ton of bituminous coal during 1923 and four years previous, as reported by the Department of Commerce in connection with the above, were:

	Av. Price				
Month	1919	1920	1921	1922	1923
Jan.	$3.72	$4.23	$6.41	$4.87	$6.28
Feb.	3.67	4.22	6.03	5.30	6.49
Mar.	4.33	4.24	5.88	5.24	6.46
Apr.	4.28	4.50	5.29	4.51	6.02
May	3.73	4.63	4.90	4.48	5.26
June	3.62	52.6	4.41	5.09	5.04

	Av. Price				
Month	1919	1920	1921	1922	1923
July	$3.61	$6.22	$4.46	$5.36	$4.92
Aug.	3.67	6.66	4.24	6.81	4.87
Sept.	3.71	6.72	4.60	6.70	5.04
Oct.	3.74	6.79	4.55	6.23	5.07
Nov.	4.01	6.60	4.83	6.47	4.91
Dec.	3.94	6.52	4.62	6.41	5.14

Exports of Bituminous Coal from United States.

Exports of bituminous coal (including shipments to Canada) during 1923 and five previous years were:

Month	1918	1919	1920	1921	1922	1923
January	646,039	1,207,634	1,249,167	2,248,448	649,913	1,092,084
February	919,999	683,709	1,168,806	1,258,670	813,587	805,973
March	1,223,137	554,037	1,500,540	1,151,840	1,187,313	1,219,970
April	1,554,501	811,128	2,431,639	1,453,027	714,995	1,384,879
May	2,119,700	1,429,612	2,400,821	2,500,374	399,551	2,249,001
June	2,205,711	2,179,201	3,132,253	3,314,513	540,550	2,418,769
July	2,244,530	2,027,206	3,556,802	2,649,989	366,289	2,278,241
August	2,225,797	2,356,046	4,108,561	1,695,090	425,530	2,117,084
September ...	2,170,425	2,721,897	4,011,424	1,211,610	1,175,007	1,768,620
October	1,888,801	2,934,686	4,580,169	1,328,513	1,729,425	1,488,887
November	1,616,914	724,650	3,567,136	1,078,767	1,618,037	1,253,445
December	1,140,455	341,064	2,682,715	770,092	1,468,917	1,078,028
Totals 19,956,009		17,003,012	34,390,033	20,661,033	11,083,112	19,154,981

It will be seen that 1920 was far and away the greatest export year.

Coke Exports from the United States.

Exports of coke from the United States during 1923 and six years previous:

Month	1917	1918	1919	1920	1921	1922	1923
January ...	83,673	84,741	67,526	58,026	37,745	30,732	77,759
February ..	79,099	83,758	48,806	59,866	27,238	31,534	70,989
March	130,079	146,213	33,749	55,435	25,061	25,435	97,521
April	79,759	140,003	44,883	52,703	18,863	28,413	201,788
May	134,091	146,740	33,299	42,077	15,641	21,798	165,643
June	152,948	141,194	56,533	55,420	19,911	29,090	63,841
July	52,665	145,490	37,703	80,112	19,129	27,686	60,462
August ...	107,845	131,751	61,714	71,381	18,029	26,121	99,237
September .	88,071	132,553	63,771	80,377	17,634	35,472	95,479
October ...	114,013	118,796	81,962	103,353	22,256	38,613	77,737
November .	71,158	146,647	66,873	85,443	30,347	38,397	49,363
December .	164,787	93,100	43,320	77,109	23,034	123,442	44,951
Total ...1,258,321		1,506,986	640,139	821,252	274,787	476,733	1,104,770

These figures show notable fluctuation with 1918 far in the lead.

Anthracite Wage Increases.

As to the number and size of the wage increases secured by the anthracite mine workers since the beginning of the war, it may be said that the record is as follows: April, 1916, 7 per cent; May, 1917, 10 per cent; November, 1917, 25 per cent; November, 1918, 25 per cent; April, 1920, 20 per cent for miners and 17 per cent for company men and 10 per cent, as per Pinchot plan, September, 1923.

United States Exports of Anthracite.

Exports of anthracite coal from the United States, principally to Canada, during last seven years were:

	1917	1918	1919	1920	1921	1922	1923
January ...	295,396	241,185	368,749	306,069	289,340	224,040	356,016
February ..	254,585	227,319	221,018	272,368	291,950	274,905	330,351
March	364,587	397,358	117,805	419,682	307,940	294,753	399,563
April	586,415	340,861	285,190	347,644	368,534	109,290	421,922
May	429,137	425,110	398,890	277,197	434,308	60,860	445,813
June	604,777	378,753	474,315	511,951	495,896	40,284	418,594
July	390,619	395,537	487,653	659,059	388,041	16,698	455,370
August	678,797	408,194	505,219	552,627	373,005	28,704	442,475
September .	448,124	442,714	489,703	325,234	287,268	88,688	175,689
October ...	478,317	456,029	433,742	444,391	307,873	404,999	400,599
November .	293,981	430,369	320,719	333,265	329,380	440,208	369,429
December .	541,663	292,014	345,402	372,441	306,227	381,758	328,945
Total ...	5,363,666	4,435,543	4,448,475	4,824,776	4,179,812	2,365,187	4,544,766

The uniformity of these figures in non-strike years is noticeable.

American and British Bituminous Exports.

Exports of bituminous coal from the United States and Great Britain, by months of 1921, 1922 and 1923 were:

	United States			Great Britain		
Month	1921	1922	1923	1921	1922	1923
January	2,248,448	643,913	1,092,084	1,567,689	3,864,986	5,396,885
February ...	1,258,670	813,587	805,973	1,639,691	3,879,963	5,716,475
March	1,151,840	1,187,313	1,219,970	1,880,958	5,078,055	6,982,880
April	1,453,027	714,995	1,384,879	578,543	3,961,658	6,556,016
May	2,500,374	399,551	2,249,001	14,014	4,811,946	7,380,698
June	3,314,513	540,550	2,418,769	7,424	4,567,497	6,257,075
July	2,649,989	366,287	2,278,241	773,451	4,816,498	6,431,872
August	1,695,090	425,530	2,117,084	2,912,584	5,887,671	6,291,195
September ...	1,211,610	1,175,007	1,768,620	3,202,802	6,831,484	6,057,071
October	1,328,513	1,729,425	1,488,887	3,172,567	5,930,108	7,139,291
November ..	1,078,767	1,618,037	1,253,445	3,360,708	6,300,237	6,400,686
December ...	770,767	1,468,917	1,078,028	4,087,283	5,748,106	5,656,220
Total....	20,660,933	11,083,112	19,154,981	23,196,884	61,678,189	76,267,864

The annual report of the West Virginia Department of Mines shows that 124 new coal mines were opened in that state during the fiscal year ended June 30, 1923. Most of the development work was in Logan County, the Pocahontas region and other non-union fields in the southern part of the state.

Bunker Tonnage at Principal Atlantic Ports.

Tonnage of coal loaded on board vessels engaged in the foreign trade from New York, Philadelphia, Baltimore and Hampton Roads ports for bunker use in the years specified was:

Month	New York		Philadelphia		Baltimore		Hamp. Roads	
	1922	1923	1922	1923	1922	1923	1922	1923
Jan.	156,224	123,439	18,681	16,130	15,009	13,688	132,388	92,741
Feb. ...	146,713	145,949	21,365	19,889	20,015	9,990	121,180	80,282
Mar. ...	163,722	143,976	29,801	27,998	17,680	18,676	134,186	98,202
Apr. ...	142,078	117,094	24,095	32,122	22,971	31,465	143,741	104,110
May ...	179,256	150,118	16,565	25,932	10,871	47,385	123,524	116,569
June ...	146,562	172,302	10,155	27,581	9,298	44,991	106,507	91,514
July	132,549	153,418	8,860	29,749	6,721	37,599	88,411	115,883
Aug. ...	95,103	191,270	6,588	28,541	8,672	20,728	71,178	106,046
Sept. ...	107,727	180,644	9,904	24,856	5,291	20,570	48,093	76,466
Oct. ...	116,160	149,929	9,787	13,798	8,782	14,884	61,093	94,729
Nov. ...	177,133	125,736	15,984	21,503	9,179	9,601	75,146	89,654
Dec. ...	144,064	93,169	11,864	17,533	8,484	15,672	75,146	112,477
Total ..	1,706,791	1,747,004	184,694	285,632	154,973	285,249	1,192,012	1,178,673

Notable Mine Accidents.

Coal mine disasters in the United States in which 100 or more men were killed:

Date	Name of Mine	Location of Mine	Killed
1869 Sept. 6	Avondale	Plymouth, Pa.	179
1884 Mar. 13	Laurel	Pocahontas, Va.	112
1891 Jan. 27	Mammoth	Mount Pleasant, Pa.	109
1892 Jan. 7	No. 11	Krebs, Okla	100
1900 May 1	Winter Quarters Nos. 1 and 4.	Scofield, Utah	200
1902 May 19	Fraterville	Coal Creek, Tenn	184
1902 July 10	Rolling Mill	Johnstown, Pa.	112
1903 June 30	Hanna No. 1	Hanna, Wyo.	169
1904 Jan. 25	Harwick	Cheswick, Pa.	179
1905 Feb. 20	Virginia City	Virginia City, Ala.	108
1907 Dec. 6	Monongah Nos. 6 and 8	Monongah, W. Va.	361
1907 Dec. 19	Darr	Jacobs Creek, Pa.	239
1908 Nov. 28	Rachel and Agnes	Marianna, Pa.	154
1909 Nov. 13	St. Paul No. 2	Cherry, Ill.	259
1911 Apr. 8	Banner	Littleton, Ala.	128
1913 Oct. 22	Stag Canon No. 2	Dawson, N. Mex.	263
1914 Apr. 28	Eccles Nos. 5 and 6	Eccles, W. Va.	181
1915 Mar. 2	Layland No. 3	Layland, W. Va.	112
1917 Apr. 27	Hastings	Hastings, Colo.	121
1923 Feb. 8	Phelps Dodge Mine No. 1	Dawson	120
1924 Mar. 8	No. 2 Mine	Castle Gate, Utah	173

Average Monthly Price of Coal Exported.

Average prices of coal, both grades, exported during the year 1923 and four years previous are given below. These are based on the value at the time of exportation at the ports from which shipped.

	Anthracite					Bituminous				
Month	1919	1920	1921	1922	1923	1919	1920	1921	1922	1923
January	$7.45	$7.80	$11.20	$10.70	$11.25	$4.68	$5.60	$7.60	$5.18	$6.33
February	7.22	8.80	10.95	10.60	11.15	4.38	5.46	7.15	5.47	6.50
March	7.38	8.03	11.05	10.60	11.03	5.00	5.66	6.90	5.30	6.46
April	8.17	8.87	10.90	9.67	10.67	4.80	6.35	6.28	4.87	6.26
May	8.15	9.05	10.77	9.60	10.45	4.20	7.10	6.02	4.78	5.63
June	8.44	9.34	10.77	8.80	10.76	4.38	7.98	5.50	5.37	5.23
July	8.13	9.20	10.58	9.00	10.65	4.30	9.38	5.75	5.50	5.08
August	8.48	9.85	10.95	8.55	10.88	4.90	10.35	4.83	6.77	4.98
September	8.35	10.05	10.50	10.36	10.56	4.90	10.35	5.00	6.70	5.01
October	8.48	10.05	11.20	11.20	11.08	5.03	10.67	4.90	6.25	5.05
November	8.80	10.67	11.15	11.00	11.33	5.13	10.05	5.10	6.47	4.95
December	8.75	10.50	11.23	11.05	....	4.83	8.45	4.98	6.43	5.11

Coal Exports to Argentina.

Exports of bituminous coal to Argentina, by months, during 1923 and four years previous, with average price per ton in 1920, 1921, 1922 and 1923 were (gross tons):

						Aver. Price			
Month	1919	1920	1921	1922	1923	1920	1921	1922	1923
January	43,484	145,455	107,135	14,566	.....	$6.72	$9.87	$9.92	....
February	38,993	70,902	50,838	4,054	.....	6.62	8.72	12.44	....
March	8,670	80,346	68,562	37,591	8,140	6.67	8.88	6.04	$6.80
April	14,914	115,702	61,175	....	11,553	7.63	10.01	....	6.57
May	22,589	101,144	113,730	2,291	53,397	9.63	7.81	5.13	6.73
June	54,736	120,267	92,727	12,893	47,326	10.11	7.51	5.25	6.46
July	28,712	157,907	97,512	7,576	25,802	13.57	7.08	6.15	5.58
August	69,728	182,740	47,835	....	7,730	15.28	9.37	....	5.58
September	85,684	276,680	36,659	....	11,630	12.83	9.95	....	6.02
October	95,865	268,053	23,936	....	31,664	15.24	8.95	....	5.23
November	19,954	107,048	26,943	....	6,908	14.01	9.52	....	5.30
December	....	119,763	22,384	....	9,540	11.62	8.17	....	5.07
Total	483,329	1,746,007	752,636	78,971	131,065	....	....	....	....

Erie RR., Bituminous Shipments.

Shipments of bituminous coal over the Erie RR., revenue and company, during the past four years were:

	Revenue	Company		Revenue	Company
1921	6,959,744	3,620,691	1922	7,797,689	2,646,874
1920	12,036,731	4,007,295	1923	11,554,424	4,102,480

Exports from Rochester District.

Exports of coal and coke from the Rochester customs district, by months, during calendar years 1922 and 1923, were:

Month	Anthracite		Bituminous		Coke	
	1922	1923	1922	1923	1922	1923
January	6,489	3,075	22,317	43,691	31	....
February	3,932	2,767	31,009	41,102	41	1,000
March	3,805	3,091	55,072	46,445	41	67
April	1,544	5,081	11,476	32,262	55	103
May	3,633	65,898	3,910	64,106	..	180
June	506	76,765	10,056	72,882	..	22
July	57	73,722	7,915	83,489	..	13
August	....	79,888	4,502	71,473	..	83
September	14,737	17,405	43,586	65,984	23	20
October	80,641	67,480	101,561	53,589	..	17
November	94,714	56,306	104,061	44,107	..	57
December	34,444	6,052	55,852	36,236	54	18
Total	244,502	457,530	451,317	655,366	245	1,580

Exports from Charleston.

Exports of bituminous coal from Charleston, S. C., during the calendar year 1923 were as below, in comparison with five years previous:

Month	1918	1919	1920	1921	1922	1923
January	....	....	23,583	24,271	14,007	7,512
February	....	3,960	62,222	26,713	12,025	7,382
March	850	6,120	46,111	39,039	13,038	10,810
April	....	3,181	69,242	12,173	19,836	8,006
May	....	12,942	66,475	19,745	10,980	28,845
June	799	10,057	71,548	62,249	2,807	30,474
July	1,343	9.455	64,826	59,883	19,025	11,671
August	....	26,165	50,889	12,727	2,894	23,775
September	782	24,678	67,787	14,757	4,151	25,181
October	6,211	27,426	59,844	12,368	10,283	28,459
November	3,624	11,089	53,311	8,458	4,845	29,877
December	868	21,398	26,334	8,173	8,230	22,349
Total	14,471	156,471	662,172	298,506	122,111	234,301

The production of coal in Brazil cannot be accurately determined, but it has been estimated at around 400,000 metric tons a year, which is about one-third of the national consumption. This estimate is believed to be somewhat exaggerated. Nearly all the coal mined in Brazil is used in the States in which it is extracted, which are the three southernmost. There are six companies and one State-owned mine now producing coal. Three of the mines are located in Rio Grande do Sul, two in Santa Catharina, and one in Parana. The companies have a combined capital of 29,300,000 milreis and a potential annual capacity of 2,000,000 metric tons.

WORLD PRODUCTION OF COAL IN 1923

The incomplete information now available indicates that the world's total production of all coal in 1923 was approximately 1,335,000,000 metric tons. In comparison with the preceding year this was an increase of 112,000,000 tons, and it was but 7,000,000 less than the output in 1913, when the high record was established. The principal factor in the improvement over 1922 was an increase of 34 per cent in the production of all coal in the United States. All countries listed, however, with the exceptions of Germany and Japan, showed increases and the output by France was but 3,000,000 tons below the prewar level. The world's output in 1923 was 16,000,000 tons larger than in 1920, an increase that was largely due to recovery in the production of the United Kingdom, France, Poland and Russia, which more than offset the decrease in the United States.

It is of interest to note the tremendous decline in the production of coal in Germany. According to a report by the German Imperial Coal Council, published in the Colliery Guardian of February 1, 1924, page 280, the output of coal was 55,000,000 tons, a decrease of 58 per cent from production in 1922. The production of lignite also declined and totaled approximately 125,000,000 tons, a decrease of nearly 10 per cent. The report attributes the decline to the economic disorders that attended the occupation of the Ruhr.

The following table prepared by W. I. Whiteside of the Section of Foreign Mineral Reserves summarizes the information received by the Geological Survey up to and including March 1st. Revisions will be made as final official figures are received and the table will be re-published at a later date. In view of the fact that estimates have been used for countries that normally produce less than 5 per cent of the world's output, it is apparent that the margin of error is very small.

Coal produced in the principal countries of the world in the calendar years 1921, 1922 and 1923 (in metric tons of 2,204.622 lbs.):

Country	1921	1922	1923
North America:			
Canada: Coal	10,684,259	10,587,611	15,542,294
Lignite	2,975,598	3,162,907	.....
United States: Anthracite	82,076,000	49,607,344	86,585,000
Lignite and Bituminous	377,316,000	383,073,174	494,772,000
Other countries	(a)	(a)	(a)
South America	2,040,598	1,917,493	(a)
Europe:			
Belgium	21,750,410	21,208,500	22,916,070
Czechoslovakia: Coal	11,648,399	9,906,261	11,624,748
Lignite	21,050,712	18,942,920	16,202,496
France: Coal	28,211,839	31,163,032	37,714,393
Lignite	748,634	777,813	862,422
Germany: Coal (b)	136,227,231	129,964,597	55,000,000
Lignite	123,010,036	137,207,125	125,000,000
Saar	9,574,484	11,240,000	8,950,000
Poland	7,842,533	23,800,000	(d)37,000,000
Russia	7,611,900	8,914,600	11,707,200

Country	1921	1922	1923
United Kingdom: Great Britain..	165,781,404	253,613,054	282,970,535
Ireland	89,958	(a)	(a)
Other countries	(a)	(a)	(a)
Asia:			
British India	19,612,759	19,316,112	(d)19,000,000
China	19,876,375	21,300,000	(a)
Japan (inc., Taiwan and Karafuto) (c)	27,418,000	29,150,000	28,000,000
Other countries	(a)	(a)	(a)
Africa:			
Union of South Africa.....	10,339,044	8,830,774	10,800,000
Other countries	(a)	(a)	(a)
Oceanica:			
Australia	13,084,210	12,496,417	(a)
Other countries	(a)	(a)	(a)
Total.....	1,132,400,000	1,223,000,000	1,335,000,000

(a) Estimate included in total. (b) Of which the Ruhr produced as follows: 1921, 94,114,785 tons; 1922, 97,346,176 tons; 1923, 40,000,000 tons (see text). (c) Exclusive of lignite from Japan (annual production of about 200,000), for which estimate is included in total. (d) Estimated from figures for first 11 months.

The following table shows the trend of the world's production for the last 13 years, and the percentage of the annual total produced in the United States:

Year	Production in part estimated (Metric tons)	Per cent produced by United States	Year	Production, in part estimated (Metric tons)	Per cent produced by United States
1910	1,160,000,000	39.2	1917	1,325,000,000	44.6
1911	1,189,000,000	37.9	1918	1,331,000,000	46.4
1912	1,249,000,000	38.8	1919	1,168,000,000	43.1
1913	1,342,000,000	38.6	1920	1,319,000,000	45.3
1914	1,207,000,000	38.7	1921	1,136,000,000	40.4
1915	1,189,000,000	40.6	1922	1,208,000,000	34.6
1916	1,257,000,000	42.7			

Canadian Exports by Provinces.

Provinces	1920 Net Tons	1921 Net Tons	1922 Net Tons	1923 Net Tons
Nova Scotia	1,245,673	727,951	623,416	679,771
New Brunswick	113,050	71,534	63,901	115,364
Prince Edward Island	2	2	.....	.....
Quebec	1,372	85	56,403	3
Ontario	.....	10	.....	877
Head of Lakes.....	.....	.....	75	.....
Manitoba	721	1,690	2,154	8,213
Saskatchewan	3,132	2,633	5,167	11,510
Alberta	3,106	843	821	605
British Columbia and Yukon.	1,191,167	1,182,528	1,069,431	838,017
Yukon	.....	.....	.....	46
Total.....	2,558,223	1,987,276	1,821,277	1,654,406

Imports and Exports of Coal and Coke.

Below is a statement of business done in shipment of coal from and to the United States in fiscal years ending June 30th:

Years (All gross tons)	Exports, Anthracite	Exports, Bituminous	Imports, Bituminous
1912	2,979,102	14,709,847	1,300,242
1913	4,625,481	16,083,101	1,578,264
1914	3,959,114	15,704,966	1,358,002
1915	3,682,188	14,412,995	1,529,608
1916	3,878,478	18,749,684	1,618,539
1917	4,635,134	19,533,705	1,282,790
1918	4,842,109	21,052,057	1,391,535
1919	4,285,824	18,152,243	1,008,250
1920	4,717,462	22,976,325	1,062,889
1921	4,877,800	34,423,964	1,019,592
1922	2,992,385	13,035,800	1,244,945
1923	3,733,714	15,953,879	5,267,934

Under the reciprocal policy of the most recent tariff act there is no import duty on coal from Great Britain, but since September 22, 1922, there has been a charge on coal from Canada of 14 cents for mine run and 53 cents for lump. Slack and coke are admitted free.

Bituminous was dutiable previous to October 1, 1913, when put on free list, but became dutiable September 22, 1922, as stated above, with respect to countries not admitting our coal free. Details of fuel exports in calendar years 1922 and 1923 are given below:

Exports	Anthracite		Bituminous	
	1922	1923	1922	1923
To Canada	2,296,333	4,454,419	9,675,320	15,037,454
France	.....	4,274	12,012	842,671
Netherlands	464	.....	2,537	378,936
Sweden	.....	.....	.....	51,622
British West Indies	371	245	90,586	98,249
Italy	.....	.....	124,083	585,085
Panama	10	.....	104,458	19,265
Mexico	5,322	3,781	91,056	94,648
Cuba	44,013	62,643	463,858	610,619
Other West Indies	.....	.....	103,918	169,986
Brazil	4	.....	152,133	310,724
Argentina	22	75	78,971	131,065
Chili	.....	451	46,916	19,629
Other countries	18,648	18,878	.....	.....
Total*	2,365,187	4,544,766	11,083,112	19,154,981

*Does not include fuel or bunker coal laden on vessels engaged in the foreign trade, which aggregated during the 12 months as follows: 1917, 6,883,176 tons; 1918, 5,626,175; 1919, 7,342,734; 1920, 9,362,178; 1921, 7,547,518 tons; 1922, 4,115,872 tons; 1923, 4,547,343 tons.

Coke exported in 1912, 912,576 tons; in 1913, 881,603 tons; in 1914, 592,487 tons; in 1915, 799,444 tons; in 1916, 1,048,790 tons; in 1917, 1,258,321 tons; in 1918, 1,506,986 tons; in 1919, 640,139 tons; in 1920, 821,252 tons; in 1921, 273,888 tons; in 1922, 456,733 tons; in 1923, 1,104,770 tons.

Coke Exports to Various Countries.

Exports of coke from the United States to various countries during 1922 and 1923 were:

	1922	1923		1922	1923
France	7,715	128,418	Nicaragua	54	20
Germany	4,874	53,697	Panama	6,519	160
Belgium	200	90,651	Salvador	42	45
Italy	4,245	24,880	Mexico	30,705	75,936
Netherlands	6,082	7,235	Canada	366,828	667,220
Norway	1,171	8,737	Bermuda	....	1
Spain	....	1,002	Trinidad & Tobago.	4	10
Switzerland	460	....	Other British W. I.	10	91
England	563	2,638	Cuba	4,810	6,315
Scotland	4,064	960	Virgin Islands	....	1
Argentina	....	98	Dominican Republic	65	113
Brazil	4	5	Haiti	....	10
Chile	10,692	37,096	Jamaica	1,067	6
Colombia	70	51	Paraguay	2	....
Ecuador	30	80	French Oceania	1	....
Peru	10,162	109	Denmark	....	21
Venezuela	50	978	Ireland	....	20
British Honduras	6	4	Newfoundland and Labrador	....	32
Costa Rica	60	98	Total	456,733	1,102,376
Guatemala	30	86			
Honduras	32	109			

Ohio Customs District Exports.

Exports of coal and coke from the Ohio customs district, by months, during calendar years 1922 and 1923 were:

	Anthracite		Bituminous		Coke	
	1922	1923	1922	1923	1922	1923
January	....	....	44,920	116,002	273	378
February	....	....	.....	866	....	92
March	....	....	35,049	1,832	....	....
April	3	1	85,201	134,179	109	961
May	....	10,605	91,383	788,235	123	5,011
June	9	3,964	176,629	1,028,192	30	237
July	....	3,101	122,756	974,871	....	9,751
August	....	10,709	119,718	1,013,151	25	13,614
September	....	151	671,356	769,530	73	9,345
October	1,014	....	1,048,704	616,094	1,100	14,094
November	10,819	6,937	974,881	551,989	814	3,862
December	130	6	451,983	246,327	799	1,243
Total	11,975	35,474	3,822,580	6,342,868	3,356	58,588

The anthracite strike of 1923 began September 1st and two years' agreement was reached September 8th at Harrisburg.

Anthracite Coal Exports.

Exports of anthracite coal from the United States to various countries during the calendar years 1922 and 1923 were:

	1922	1923		1922	1923
France	....	4,274	Newfoundland and Labrador	5,271	5,309
Netherlands	464	....	Barbados	135	100
Mexico	5,322	3,781	Jamaica	20	....
Cuba	44,013	62,643	Other British West Indies	371	145
Argentina	22	75	Dominican Republic.	1,345	9,328
Brazil	4	....	Colombia	....	15
Chile	....	451	Peru	125	....
Denmark	8	....	Venezuela	8	15
Greece	....	3	Costa Rica	2	2
Bermuda	....	1,971	England	231	4
British Honduras	....	362	Haiti	....	90
Canada	2,296,333	4,454,419	Egypt	10,995	....
Guatemala	164	122	Germany	30	....
Honduhas	83	3	French Oceania	2	....
Nicaragua	89	1	Ecuador	....	49
Panama	10	....			
Salvador	8	13			
Miquelon, Langley etc.	123	270			

Receipts at Duluth-Superior.

The following shows the amount of both grades of coal handled by the Duluth and Superior docks from 1892 to 1923:

Year	Anthracite	Bituminous	Year	Anthracite	Bituminous
1892	531,547	1,281,014	1908	1,210,060	4,782,940
1893	571,915	1,554,868	1909	1,098,286	4,688,908
1894	562,243	1,488,509	1910	1,356,680	7,517,241
1895	489,695	1,183,147	1911	1,594,249	7,179,103
1896	496,189	1,279,523	1912	1,651,978	6,996,046
1897	501,507	1,490,542	1913	2,210,096	8,842,509
1898	495,877	2,041,399	1914	1,658,250	7,936,965
1899	684,877	1,912,304	1915	1,725,506	7,066,170
1900	431,970	2,290,257	1916	1,554,026	6,952,698
1901	680,441	1,979,497	1917	1,853,419	7,630,894
1902	211,953	2,297,646	1918	1,713,819	8,363,611
1903	942,208	3,119,105	1919	1,765,502	6,277,158
1904	842,752	3,465,548	1920	1,704,090	6,536,751
1905	792,789	2,844,326	1921	1,856,425	7,490,526
1906	986,842	4,456,983	1922	570,741	5,731,420
1907	1,205,024	5,570,742	1923	1,232,144	11,840,599
Totals				35,193,100	189,292,049

MORE BRIQUETS MADE

Their Production in 1923 Exceeded That of Any Earlier Year.

The production of fuel briquets increased in 1923, and a new high record was established. Reports to the Geological Survey show that the total output was 696,810 net tons, an increase over 1922 of 77,385 tons, or approximately 12 per cent.

This increase may be largely attributed to improvement in demand for briquets in the Eastern States, which resulted in an increase of 48 per cent in the output at plants in that territory. Production increased slightly in the Pacific Coast States, but in the Central States where the largest increase in 1922 occurred, there was a decrease of 5 per cent.

Output in recent years is shown below:

Year	Net Tons	Year	Net Tons	Year	Net Tons
1916	295,155	1919	295,734	1922	619,425
1917	406,856	1920	567,192	1923	696,810
1918	477,235	1921	398,949		

Of the 14 plants that operated five used anthracite culm, two semi-anthracite, two a mixture of anthracite culm and bituminous slack, one semi-bituminous slack, one bituminous slack, one a mixture of bituminous slack and sub-bituminous coal, and two carbon residue from the manufacture of oil gas.

Total quantity of raw fuel used was 682,490 net tons, an increase of 11 per cent over 1922. Of the total, 49 per cent was anthracite and semi-anthracite, 33 per cent semi-bituminous and bituminous slack, and 18 per cent sub-bituminous coal and oil-gas residue.

Fuels Used.

Raw fuels used in making briquets in the United States were as follows:

	1922	1923
Anthracite culm and semi-anthracite	254,563	331,102
Semi-bituminous and bituminous slack	235,542	225,508
Lignite, sub-bituminous coal, and oil-gas residue	123,339	125,880
	613,444	682,490

All plants that were in operation in 1922 were active in 1923 except the Clinchfield Carbocoal Corporation, at South Clinchfield, Va., which was idle throughout the year. The plant of the Virginia Fuel Corporation, at Norfolk, Va., began active operations and reported production on a commercial scale.

British Coal Trade.

A summary in round numbers of the coal trade in 1913, 1922 and 1923 follows:

Items	1913 Long Tons	1922 Long Tons	1923 Long Tons
Production	287,430,000	249,607,000	278,501,000
Exports	73,400,000	64,198,000	79,450,000
Bunkers	21,000,000	18,259,000	18,158,000
Home consumption	193,030,000	167,150,000	180,893,000

Pittsburgh & Lake Erie RR. Shipments.

Shipments of bituminous coal over the Pittsburgh & Lake Erie RR. during 1923 and three years previous, and coke during 1922 and 1923, were:

	Bituminous Coal				Coke	
	1920	1921	1922	1923	1922	1923
January	1,367,216	1,090,320	492,261	1,735,589	178,472	337,777
February	1,113,250	852,513	632,552	1,322,040	164,442	391,138
March	1,059,753	789,868	858,992	1,802,297	195,715	498,820
April	386,496	648,098	153,084	1,967,375	168,913	459,719
May	335,316	1,121,338	125,046	1,990,311	155,195	430,704
June	816,654	788,885	222,632	1,809,506	124,626	434,088
July	1,029,097	717,672	216,008	1,655,851	125,887	438,109
August	1,311,313	708,504	405,764	1,833,711	102,345	439,345
September	1,371,448	754,050	1,007,692	1,698,198	208,337	386,909
October	1,619,649	1,070,950	910,482	1,802,375	262,800	362,338
November	1,504,327	924,766	1,121,446	1,522,807	292,037	285,053
December	1,522,004	764,253	1,002,251	1,334,041	290,424	297,506
Total	13,436,523	10,231,217	7,148,140	20,483,381	2,269,193	4,761,506

Michigan Customs District Exports.

Exports of coal and coke from the Michigan Customs District, by months, during the calendar years 1922 and 1923 were:

	Anthracite		Bituminous		Coke	
	1922	1923	1922	1923	1922	1923
January	247	125	97,576	233,072	8,781	10,057
February	1,124	150	43,588	177,790	10,257	9,456
March	413	502	153,085	182,144	11,720	15,416
April	375	...	72,780	189,640	10,263	18,473
May	298	341	87,617	138,960	10,632	13,903
June	264	18	151,849	126,090	13,344	13,677
July	96	88	85,967	113,009	15,985	13,166
August	206	199	71,665	103,003	8,219	13,086
September	254	891	140,993	139,275	13,593	28,535
October	64	434	124,332	113,394	5,904	15,564
November	...	1,238	16,494	83,977	2,105	10,941
December	76	3,061	204,148	119,569	18,673	10,915
Total	3,417	7,047	1,250,094	1,719,923	129,466	173,189

The fact that the U. S. Coal Commission trimmed down its original list of so-called coal dealers from 25,000 to 8,300 gives emphasis to the facts conveyed in an article of August 19th last year, in which we outlined that there were probably 3,706 dealers selling more than 5,000 tons annually, a number much smaller than many people supposed. In order to make up that list of 8,300 the Commission had to draw to the extent of something more than 4,500 on the class selling less than 5,000 tons a year, and there are many good-sized villages in which the tonnage of the individual coal yards does not exceed 3,000 tons a year.

VIRGINIA SEMI-ANTHRACITE

High Prices of Real Anthracite May Encourage Its Development.

The so-called "Virginia anthracite" coal is only a semi-anthracite and is high in ash. The deposits are relatively small, being confined to three counties lying to the eastward of the bituminous fields in the southwestern part of the State. Heretofore attempts to exploit this fuel have not been successful enough financially to encourage further ventures along that line, but with Pennsylvania anthracite steadily becoming more costly, the day may not be far distant when Virginia semi-anthracite can be marketed to advantage.

It is mined in a section of the State known as the Great Valley and is referred to as Valley coal. The Geological Survey says in part:

"An anthracite, according to the accepted meaning of the term, is a coal so low in volatile constituents that it burns with a bluish flame only and not with the short yellowish flame that is characteristic of the Valley coals. A comparison of the analyses of samples of anthracite shows that in coals which burn with a blue flame the volatile matter is one-tenth or even less than one-tenth of the fixed carbon.

"This relation is generally expressed as the quotient of the percentage of fixed carbon divided by the percentage of the volatile matter, and this is called the fuel ratio. The fuel ratios of the Valley coals show that the coal of highest rank has a fuel ratio of 8.5. The fuel ratio of anthracite of the lowest grade is 10, so that all the coals here considered are below the rank of a true anthracite.

"This coal is evidently not an anthracite and should not be placed upon the market under that name.

Resembles Lykens Valley Coal.

"The coal with which the Valley product is most often compared is the Lykens Valley coal, which occurs at the west end of the southern anthracite field of Pennsylvania. This coal commands a substantial premium above the highest rank or 'dry' anthracite, because it contains more volatile matter and, therefore, burns with a short yellow flame that makes it attractive as a grate fuel. Its higher percentage of volatile matter also makes it ignite more readily than ordinary anthracite, and this is another point in its favor.

"The Valley coals are slightly lower in rank than the Lykens Valley coal, but they are not low enough to be called smoky coals, and consequently there seems to be no reason why these Virginia coals should not find as ready a market as the Lykens Valley coal, provided the ash is reduced to the percentage above noted.

"The Valley coal should not be classed as anthracite because its percentage of volatile matter is too high, but the analyses show that it is only slightly below that rank. The next rank below anthracite is semi-anthracite, and this rank includes coals whose fuel ratios range from 5 to 9.9. The analyses show that practically all the coals of Montgomery, Pulaski, and Southern Wythe Counties fall within this rank, though they differ considerably among themselves.

"The Valley coal now being mined should therefore be marketed as a semi-anthracite, but if properly cleaned it will perhaps be an even more attractive fuel for some purposes than the 'dry' anthracite of the Pennsylvania fields.

"The worst feature of this coal is its high percentage of ash, which in the samples cut in operating mines runs from a minimum of 14 per cent to a maximum of 28 per cent. It is hardly possible to say what amount of ash is permissible, but a strong effort should be made by careful picking and washing to bring the amount within 8 per cent. If such a reduction could be made it would increase the heating value to about 13,700 British thermal units and would provide a domestic fuel that need not fear competition in any market."

Tonnage Handled at South Amboy.

It has often been said that the Pennsylvania RR. piers at South Amboy, N. J., handle more coal than any other loading port in New York harbor, but in 1923 the Port Reading piers handled more coal than was handled at South Amboy. We give below a tabulation showing the operations in gross tons over a term of years:

Year	Bituminous	Anthracite	Total	Coke Net
1912	3,562,810	888,239	4,451,049	10,297
1913	4,291,953	1,160,656	5,452,609	11,800
1914	3,657,520	1,466,773	5,124,293	13,815
1915	4,158,938	1,111,125	5,270,063	16,338
1916	4,197,494	1,022,054	5,219,548	16,048
1917	4,113,570	757,515	4,871,085	5,858
1918	4,838,028	600,340	5,438,368	364
1919	3,393,754	569,445	3,963,199	1,597
1920	4,618,178	715,135	5,333,310	.....
1921	3,533,172	589,689	4,122,861	.....
1922	2,102,552	569,910	2,672,462	.....
1923	2,995,705	825,956	3,821,661	92,656

United States Imports of Bituminous Coal.

Month	1918	1919	1920	1921	1922	1923
January	105,569	72,784	115,445	66,859	111,037	337,649
February	101,450	55,834	87,890	56,258	93,019	384,142
March	128,248	76,528	71,126	83,100	118,604	319,941
April	91,334	60,550	89,993	89,204	68,695	159,253
May	103,186	81,511	79,728	66,693	41,654	72,084
June	141,422	31,294	94,038	84,100	135,343	45,320
July	109,306	43,542	53,994	96,200	189,940	61,856
August	111,350	43,570	107,792	134,478	770,332	58,344
September	113,969	77,031	126,197	112,762	1,123,188	50,321
October	134,508	109,852	90,867	120,390	1,143,157	89,059
November	90,878	131,334	90,548	125,297	366,423	46,399
December	69,738	119,340	103,944	87,506	356,505	56,262
Total	1,301,229	903,170	1,111,598	1,122,847	4,517,857	1,680,630

Output of Coal in Canada.

Coal output in Canada during the year 1923 and three years previous was:

Provinces	1920 Net Tons	1921 Net Tons	1922 Net Tons	1923 Net Tons
Nova Scotia—				
Bituminous	6,437,156	5,734,653	5,348,830	6,543,055
New Brunswick—				
Bituminous	171,685	180,358	288,656	276,614
Saskatchewan—				
Lignite	335,222	332,117	249,559	433,357
Alberta—				
Anthracite	127,513	96,964	41,423	107
Bituminous	3,419,147	2,871,919	2,511,759	3,709,785
Lignite	3,361,105	2,885,537	2,834,077	3,112,048
Total Alberta	6,907,765	5,854,420	5,387,259	6,821,940
British Columbia—				
Bituminous	3,095,011	2,840,870	2,935,579	2,818,585
Total Dominion.				
Anthracite	127,513	96,964	41,423	107
Bituminous	13,122,999	11,627,800	11,084,824	13,348,039
Lignite	3,696,327	3,217,654	3,083,636	3,545,405
Grand total	16,946,839	14,942,418	14,209,883	16,893,551

Coal Available for Consumption in Canada.

We give below figures relative to Canadian coal consumption based on official data compiled by Canadian government:

Month	1919	1920	1921	1922	1923
January	2,249,747	2,162,684	2,885,978	1,942,932	3,256,573
February	2,120,283	2,028,386	2,323,612	2,190,966	2,781,457
March	1,916,081	2,490,002	2,168,003	2,887,499	3,001,491
April	1,593,431	2,045,562	1,707,091	1,306,924	2,344,440
May	2,041,873	2,007,941	2,300,548	1,122,510	2,845,506
June	2,209,379	2,690,650	2,827,744	1,263,067	3,778,731
July	2,654,082	3,481,007	2,786,562	1,139,593	3,365,106
August	2,839,860	3,580,236	3,244,557	1,007,903	4,234,121
September	3,253,358	3,409,635	2,722,557	2,306,843	3,272,493
October	3,346,778	3,600,143	2,736,524	4,081,989	3,309,568
November	2,557,817	4,043,562	2,898,097	4,466,889	3,045,076
December	2,049,130	3,664,329	2,572,564	3,879,158	2,691,903
Total net tons	28,831,819	35,204,137	31,173,837	27,596,273	37,926,465

During 1923, 32,161 tons of bituminous coal were exported from the Florida customs district. Coke tonnage amounted to 5,440 tons, anthracite 147 tons, and bunker tonnage for foreign vessels 104,158 tons.

Imports of Coal Into Canada by Grades and by Provinces.

Imports of coal into Canada by grades and by provinces for the twelve months ending December 31, 1923, were (short tons):

Province	Source	Anthracite: Egg, Nut, etc.	Anthracite: Dust	Bituminous: Round	Bituminous: Slack
Nova Scotia	United States	35,169	....	26,340	18,086
	Great Britain	18,570	....	7,871	.....
Prince Edward Island	United States	4,303	....	1,263	.....
	Great Britain	.....	....	.....	.....
New Brunswick	United States	54,291	265	50,882	27,960
	Great Britain	35,787	....	5,513	17,927
Quebec	United States	1,359,735	251,616	2,187,348	735,643
	Great Britain	183,702	21,356	42,552	194,946
Ontario—Central	United States	2,925,510	134,454	9,049,420	2,667,878
	Great Britain	2,244	....	.....	.....
Ontario—Head of Lakes	United States	74,409	8,149	1,999,070	351,634
	Great Britain	.....	....	.....	.....
Manitoba	United States	54,290	1,566	34,328	77,806
	Great Britain	.....	....	.....	.....
Saskatchewan	United States	2,125	166	421	1,186
	Great Britain	.....	....	.....	.....
Alberta	United States	.....	....	564	546
	Great Britain	.....	....	.....	.....
British Columbia	United States	174	....	14,075	6,174
	Great Britain	.....	....	1	.....
Yukon	United States	.....	....	5	.....
	Great Britain	.....	....	.....	.....
Canada	United States	4,510,006	396,216	13,363,716	3,886,913
	Great Britain	240,303	21,356	55,937	212,873

It often happens that large quantities of bituminous coal are brought into Canada but are not cleared from customs until required for use owing to the fact that there is a duty of 53 cents a ton collected on all bituminous coal round. and run-of-mine imported.

Anthracite Shipments by Railroad Routes.

Shipments over the lines of the anthracite coal carriers in the year 1923 and four years previous in gross tons were as follows:

Companies	1919	1920†	1921	1922	1923*
Philadelphia & Reading	12,289,893	14,078,324	13,696,789	8,263,106	13,789,175
Lehigh Valley	12,003,687	12,500,839	11,956,688	7,178,902	12,758,211
Jersey Central	5,941,412	5,459,948	5,424,785	3,854,672	6,060,237
Del., Lack. & Western	10,299,834	9,891,780	10,513,778	5,880,117	11,140,959
Delaware & Hudson	8,087,362	9,670,402	8,264,499	5,271,174	9,535,305
Pennsylvania	4,801,453	5,519,042	4,881,114	3,327,036	6,204,974
Erie	7,311,009	6,461,400	7,069,862	4,257,180	7,983,430
N. Y., Ont. & Western	1,882,601	2,014,654	1,604,425	1,028,590	1,854,620
Lehigh & New England	3,232,450	3,238,468	2,809,006	1,754,615	3,343,370
Total	66,855,462	68,915,460	67,617,713	40,815,772	72,668,621

*December estimated.

Central "Competitive Field" Wage Agreement.

The following agreement was entered into by the representatives of the coal operators and miners of Illinois, Indiana, Ohio and western Pennsylvania at Jacksonville, Fla., February 19, 1924.

1. This joint conference of operators and miners of Illinois, Indiana, Ohio and western Pennsylvania, as now constituted, hereby reaffirms the wage scale contracts now existing between the United Mine Workers of America and the coal operators whose interests are represented in this conference, and hereby extends the same for a period of three years, from April 1, 1924, to March 31, 1927, in all of their terms, provisions and conditions.

It is understood the execution of this interstate agreement extends without further negotiations, the district and sub-district agreements now in effect in the districts affected.

2. That an interstate joint conference of the Central Competitive Field shall assemble the second Monday in February, 1927, at Miami, Fla., and the president of the United Mine Workers of America and the chairman of this joint interstate conference are authorized and instructed to send out notices at the proper time as to the assembling of the conference.

Facts About Ohio's Coal Trade.

It is stated that the most important coal bed in Ohio is doubtless the Middle Kittanning, which has made the Hocking Valley famous. The Pittsburgh coal bed is probably a close second and is mined extensively in Belmont and Jefferson counties. Other beds have attained prominence in local fields, but the two mentioned above must be regarded as furnishing the bulk of the coal produced in Ohio.

There are two principal fields in the State—the northern, which produces about 65 to 70 per cent, and the southern, producing about 30 to 35 per cent of the State's total.

About 40 to 43 per cent of the total output of the mines is consumed within the State by domestic and commercial users; 5 to 9 per cent is shipped to other states; and 48 to 55 per cent embraces the tonnage sold to railroads or shipped to the Great Lakes.

Although the mines ship a large tonnage to points outside its borders, Ohio receives so much coal from other states that the consumption within the State, exclusive of railroad fuel, is equal to the production.

As the country grows older it is recognized that continuing growth on the early-day percentage basis is not to be expected. Take as a conspicuous example, the city of Chicago. That is still a live town by all standards, but it is not growing at the remarkable rate of the decades prior to and just after the great fire. There is always a tendency to progress at a lower rate of percentage as one reaches the higher numbers. In foreign countries the dominant idea is often to maintain the record of the past, and satisfaction is derived from so doing. Over here, the ideas of great growth year after year that were formerly appropriate in a new country, such as this was a generation or two ago, must be modified as time goes on.

DESTINATIONS OF BRITISH COAL EXPERTS

More Than Three Times Tonnage Movement of 1920 and 1921—Big Increase to Germany.

Exports of fuel (gross tons) from Great Britain and bunker tonnage supplied during 1923 and four years previous were:

Country:	1919	1920	1921	1922	1923
Russia	221,490	92,899	138,378	584,069	476,205
Sweden	1,592,324	1,372,478	1,232,904	2,522,820	3,168,367
Norway	1,330,546	800,917	694,316	1,566,969	1,609,758
Denmark	1,742,711	1,040,107	1,803,561	2,866,233	3,170,269
Germany	4,301	13,457	817,877	8,345,606	14,806,232
Netherlands	401,901	239,067	1,787,678	6,069,789	6,794,346
Austria-Hungary	142,567	99,258	.....	.....	.....
Belgium	143,769	671,385	618,066	3,489,419	6,504,592
France	16,204,799	11,690,922	6,395,651	13,579,417	18,826,352
Portugal, Azores, and Madeira	673,926	416,999	456,285	784,356	834,982
Spain	805,740	290,141	1,021,472	1,711,021	1,145,801
Canary Islands	262,184	382,249	160,304	524,815	610,846
Italy	4,641,046	2,905,217	3,383,083	6,341,743	7,592,735
Greece	139,315	98,238	248,554	428,647	463,070
Algeria	523,091	510,837	455,364	1,032,282	1,060,180
French West Africa	263,636	111,297	48,730	119,327	143,676
Portuguese W. Africa	270,037	280,771	107,022	193,667	242,282
Chile	7,294	7,122	22,624	84,311	19,091
Brazil	189,205	158,144	242,223	1,013,221	1,151,629
Uruguay	184,813	117,480	221,847	502,533	404,894
Argentine Republic	639,089	273,668	887,344	2,021,092	2,461,074
Channel Islands	114,647	123,538	113,964	160,636	164,179
Gibraltar	1,465,533	1,134,326	367,750	689,428	452,700
Malta	733,045	420,785	206,108	214,396	297,804
Egypt	1,675,263	985,423	1,017,748	1,743,643	1,696,054
Sudan	23,186	151	6,835	18,726	1,006
Aden and Depend.	49,479	27,842	70,073	92,964	64,209
British India	354	535	531,561	999,159	84,745
Ceylon	13,305	14,539	140,307	232,675	168,837
Other countries	790,972	652,081	1,462,453	6,168,825	5,033,763

Tonnage by Grades.

Grades:	1919	1920	1921	1922	1923
Total, anthracite	1,606,126	1,641,190	1,463,668	2,520,275	3,181,814
Total, steam	28,673,382	20,137,411	18,372,185	48,108,602	58,984,199
Total, gas	3,342,019	2,204,571	3,740,744	9,197,544	9,102,450
Total, household	143,877	76,059	228,246	616,418	1,448,271
Total, other sorts	1,484,164	872,622	855,709	8,755,545	6,732,944
Grand total	35,249,568	24,931,853	24,660,552	64,198,384	79,449,678

Grades	1919	1920	1921	1922	1923
Coke	1,509,010	1,372,931	736,213	2,513,978	3,970,207
Patent fuel	1,708,015	2,258,111	850,074	1,227,114	1,066,843
Total, fuel, all kinds.	38,466,593	28,562,895	26,246,839	67,939,476	84,486,728
Bunkers, foreign.....	12,021,242	13,840,360	10,926,444	18,259,027	18,158,188

Growth of British Export Trade.

In the course of seventy-five years the British export trade increased enormously as shown by the following table of gross tons:

Countries	1848	1890	1900	1910	1920	1922	1923
France	515,975	5,093,329	8,314,697	9,588,892	11,690,922	13,579,417	18,826,352
Germany ...	170,038	3,350,512	5,938,178	10,005,515	13,457	8,345,606	14,806,232
Russia	83,582	1,593,189	3,116,099	3,224,344	92,879	584,069	476,205
Sweden	37,995	.....	2,986,579	3,991,207	1,372,478	2,522,820	3,168,367
Norway	18,800	2,313,817	1,342,759	1,982,599	800,917	1,566,969	1,609,758
Denmark ...	145,286	1,325,585	2,056,990	2,712,681	1,040,107	2,866,233	3,170,269
Belgium	3,882	.....	1,152,109	1,559,309	671,385	3,489,419	6,504,592
Holland	184,434	527,460	1,812,257	2,243,658	239,067	6,067,789	6,794,346
Spain	53,548	1,905,618	1,695,820	2,876,276	290,141	1,711,021	1,145,801
Italy	46,927	3,910,847	5,115,125	8,784,504	2,905,217	6,341,743	7,592,735
Portugal ...	33,066	627,529	569,901	1,136,496	301,413	784,356	834,982
Total	1,329,764	20,994,673	34,449,635	64,520,320	24,931,853	64,198,384	79,449,678

Varieties of Middlemen.

There are a large number of prominent concerns acting as middle-houses in the trade and the responsible wholesale merchants have in many cases urged discontinuance of the use of the word "jobber," to designate those who play an intermediary part in the trade. As a matter of fact, in the part of the industry under consideration, there are two elements; there are the substantial wholesale merchants well known to the trade and others not so well known, their advertisements rarely, if ever, being seen in print, who might be more fittingly described by the word "jobbers" or as the old-time phrase in the New York market was, "scalpers."

When the middle-houses are attacked, as all branches of the trade are attacked from time to time, Mr. Dering and his associates in the executive offices of the association think of the wholesale merchants as representative concerns in their branch of the industry, while most likely it is the scalpers who are the ones being criticised, and with a fair degree of justice.

As the past summer has shown, the jobbing business, unassociated with a fixed mine agency or other definite source of supply and without established avenues of distribution, is often a dull and precarious vocation. A number of one-man offices are maintained with considerable exertion during the dull times. What is more natural than when the opportunity does offer the scalper should emerge from his wigwam and go forth with his tomahawk to get the best the market affords?

British Coal Prices.

Monthly record of highest and lowest market quotations for Welsh coal, coke and patent fuel during the year 1923.

	January		February		March		April	
	High	Low	High	Low	High	Low	High	Low
Best Admiralties	30 0	27 6	30 0	29 0	40 0	32 0	45 0	38 0
Second "	29 0	27 0	29 0	28 0	37 6	31 0	42 6	36 6
Ordinary steams	28 0	26 6	28 6	27 0	36 0	29 0	40 0	35 0
Best small steams	20 0	18 0	22 6	21 0	31 0	24 0	32 6	29 0
Ordinary " "	19 0	16 0	21 0	18 0	28 0	22 6	31 0	27 6
Cargo "	18 0	14 0	20 0	16 0	26 0	20 0	29 0	24 0
Best dry coals	28 6	26 6	23 6	27 6	38 0	29 0	42 6	37 6
Ordinary dry coals	28 0	25 6	27 6	25 6	35 0	28 0	40 0	32 6
Washed nuts	32 6	25 0	30 0	25 0	32 6	27 6	35 0	30 0
" smalls	21 0	18 6	23 0	22 0	30 0	24 0	32 0	28 0
Black Veins	28 6	27 0	29 6	28 0	37 6	31 6	42 6	37 6
Western Valleys	28 0	26 6	29 0	27 6	36 6	31 0	41 0	36 0
Eastern "	27 0	26 0	28 6	27 0	36 0	30 0	40 0	32 6
Inferior	26 6	24 0	27 6	25 0	35 0	28 0	38 0	31 6
Best house coals	30 0		30 0		30 0		35 0	30 0
Seconds	29 0	24 0	29 0	24 0	29 0	24 0	35 0	27 0
No. 3 Rhondda large	31 0	29 0	31 0	29 0	37 6	31 0	42 6	32 6
" " small	21 0	19 0	25 0	21 0	28 6	24 0	32 6	28 0
No. 2 " large	26 6	23 6	27 0	25 0	32 0	27 0	37 6	30 0
" " thro'-and-thro'	23 0	19 6	24 0	21 6	29 6	25 0	32 6	27 6
" " small	15 6	13 6	21 0	16 0	26 0	21 0	27 6	25 0
Patent fuel	30 0	28 0	37 6	32 6	45 0	35 0	50 0	40 0
Coke—export	45 0	37 6	55 0	45 0	80 0	70 0	80 0	70 0
" blastfurnace	27 6	25 0	35 0	25 0	35 0	30 0	35 0	30 0
" foundry	42 6	35 0	45 0	37 6	45 0	37 6	45 0	37 6

	May		June		July		August	
	High	Low	High	Low	High	Low	High	Low
Best Amiralties	45 0	39 0	42 6	32 6	32 6	30 0	32 0	29 0
Second "	41 0	38 0	41 0	29 0	30 0	28 6	30 0	28 0
Ordinary steams	39 0	36 6	39 0	28 0	29 0	27 6	28 6	27 0
Best small steams	33 0	30 0	32 6	25 0	25 0	20 0	22 6	19 0
Ordinary " "	32 0	29 0	30 0	23 0	23 6	19 0	21 0	18 0
Cargo "	30 0	26 0	29 0	19 0	20 0	17 0	18 0	16 0
Best dry coals	40 0	37 0	40 0	32 0	32 0	29 0	30 0	29 0
Ordinary dry coals	37 6	35 0	37 0	27 6	30 0	27 0	29 0	27 0
Washed nuts	37 6	30 0	35 0	30 0	32 6	27 6	30 0	27 0
" smalls	32 6	29 0	32 6	27 0	28 0	25 0	26 0	24 0
Black Veins	41 0	38 0	40 0	29 0	30 0	28 0	29 6	28 6
Western Valleys	40 0	36 0	39 0	28 0	29 0	27 0	28 6	27 0
Eastern "	39 0	35 0	37 0	27 0	28 0	26 0	27 6	25 0
Inferior	38 0	33 0	37 0	26 0	27 0	25 0	27 0	24 0
Best house coals	35 0		35 0		35 0	32 6	32 6	
Seconds	35 0	33 0	35 0	30 0	30 0	27 6	30 0	27 6

	May		June		July		August	
	High	Low	High	Low	High	Low	High	Low
No. 3 Rhondda large	40 0	38 0	40 0	34 0	35 0	32 6	33 6	30 0
" " small	35 0	27 6	35 0	27 0	28 0	25 6	26 6	25 0
No. 2 " large	36 0	32 0	35 0	25 0	25 0	24 0	25 0	23 0
" " thro'-and-thro'	34 0	29 0	34 0	22 6	23 6	19 0	22 0	18 0
" " small	28 0	25 0	28 0	20 0	20 0	17 0	17 0	15 0
Patent fuel	45 0	37 6	42 6	36 0	37 0	33 0	34 0	30 0
Coke—export	75 0	65 0	72 6	50 0	62 6	45 0	65 0	45 0
" blastfurnace	35 0	30 0	40 0	30 0	35 0	30 0	35 0	30 0
" foundry	45 0	40 0	50 0	40 0	45 0	34 0	45 0	37 6

	September		October		November		December	
	High	Low	High	Low	High	Low	High	Low
Best Admiralties	30 0	28 0	28 6	27 0	28 6	27 0	30 6	29 0
Second "	28 0	26 6	27 6	26 0	27 6	26 0	29 6	28 0
Ordinary steams	27 6	26 0	26 0	25 6	26 6	25 0	28 0	27 0
Best small steams	20 0	18 0	19 0	18 0	20 0	18 0	22 6	21 0
Ordinary " "	19 0	16 0	18 0	17 0	18 6	17 0	21 6	20 0
Cargo "	18 0	15 0	16 0	15 0	17 0	15 0	20 0	17 0
Best dry coals	30 0	28 0	28 6	27 0	28 0	26 6	29 0	27 6
Ordinary dry coals	29 0	26 0	27 6	26 0	27 0	26 0	28 0	26 0
Washed nuts	32 6	26 0	32 6	27 6	30 0	27 0	30 0	25 0
" smalls	27 0	24 0	25 0	20 0	25 0	20 0	25 0	20 0
Black Veins	29 0	27 6	27 6	26 6	27 6	26 0	29 0	28 6
Western Valleys	28 6	26 6	26 6	25 6	27 0	25 0	28 6	28 0
Eastern "	27 6	25 6	25 6	24 0	26 0	23 6	28 6	27 0
Inferior	26 0	24 0	25 0	23 0	25 0	23 0	27 0	26 0
Best house coals	32 6		32 6		32 6	30 0	32 6	30 0
Seconds	30 0	27 6	30 0	27 6	30 0	27 6	30 0	27 6
No. 3 Rhondda large	32 0	28 0	29 0	28 0	29 0	28 0	30 0	28 0
" " small	26 0	24 0	26 0	24 0	25 0	24 0	26 0	24 0
No. 2 " large	24 6	23 0	24 0	23 0	24 0	23 0	26 6	24 0
" " thro'-and-thro'	20 6	18 0	21 0	18 0	21 0	18 0	24 0	20 0
" " small	17 0	15 0	18 0	15 0	18 0	15 0	20 0	16 0
Patent fuel	33 0	29 0	33 0	29 0	32 0	29 0	32 6	29 0
Coke—export	50 0	37 6	50 0	40 0	52 6	45 0	60 0	56 0
" blastfurnace	35 0	30 0	35 0	30 0	35 0	30 0	35 0	30 0
" foundry	45 0	40 0	45 0	40 0	45 0	40 0	45 0	40 0

Lignite Resources of Italy.

The total lignite resources of Italy have been estimated at 295,189,000 metric tons as a result of a recent investigation, according to La Miniera Italiana of July. Campania, Tuscany, and Umbria have about 265,880,000 tons of the total resources, the share of Tuscany alone, where mining is most developed, amounting to 135,500,000 tons, or about 46 per cent of the total.

If we ignore leap year feature, the first anthracite shipments averaged one ton a day; 365 gross tons in 1820.

American and British Coal to France.

Imports of coal into France from the United States and Great Britain during 1921, 1922 and 1923 were:

Month	From United States			From Great Britain		
	1921	1922	1923	1921	1922	1923
January	143,448	.....	.....	565,405	253,375	1,385,291
February	54,142	3,785	.....	369,641	1,206,442	1,372,062
March	37,728	8,227	3,495	437,659	1,237,815	1,805,214
April	30,513	.....	175,518	119,285	955,346	1,542,627
May	50,136	.....	238,427	1,953	1,062,774	1,772,996
June	147,333	.....	135,849	.....	982,071	1,631,986
July	110,648	.....	97,028	193,474	994,675	1,699,225
August	16,068	.....	85,543	715,021	939,588	1,560,923
September	17,045	.....	36,990	846,085	1,108,927	1,300,479
October	480	.....	27,045	879,149	1,143,552	1,708,154
November	.....	.....	30,272	1,033,986	1,384,063	1,667,990
December	.....	.....	12,502	1,233,993	2,310,789	1,332,771
Total	607,531	12,012	842,669	6,395,651	13,579,417	18,826,352

In addition to the above there were 4,274 tons of American anthracite coal imported into France in 1923.

British Coal Imported.

Imports of coal from Great Britain during the past 12 years were:

Year	Tons	Year	Tons	Year	Tons
1912	10,190,948	1916	17,311,877	1920	11,690,922
1913	12,775,909	1917	17,512,545	1921	6,395,651
1914	12,330,545	1918	16,511,005	1922	13,579,417
1915	17,001,361	1919	16,204,596	1923	18,826,352

The Hull, England, Coal Trade.

The total quantity of coal received from mines into Hull, England, during the year 1923 was 6,944,260 tons, as against 5,397,325 tons in 1922. The totals for 12 years were as follows:

Year	Via River	Via Railway	Total	Year	Via River	Via Railway	Total
1912	462,636	6,549,342	7,011,978	1918	160,930	2,444,672	2,605,602
1913	517,488	7,428,477	7,945,965	1919	164,080	1,937,568	2,101,648
1914	431,944	5,220,689	5,652,633	1920	183,376	1,987,905	2,171,281
1915	261,346	4,406,387	3,667,733	1921	165,664	2,232,299	2,397,963
1916	217,849	3,072,432	3,290,281	1922	221,486	5,175,830	5,397,325
1917	195,431	2,616,925	2,812,356	1923	222,997	6,721,263	6,944,260

Coal and Coke Consumption of Burma Railways.

The annual consumption of coal by the Burma Railways is between 192,000 and 200,000 long tons per year. They also consume annually about 1,000 tons of soft coke and 400 tons of hard coke. Most of this coal and coke is imported from Bengal. The only other large consumer of coke in Burma is the Burma Corporation, which uses about 30,000 long tons annually for smelting purposes only.

British Coal Trade.

The following table shows production, exports and foreign bunker trade of British coal (gross tons) for the years 1906 to 1923:

Year	Production	Exports		Foreign Bunker
		All Coal	Anthracite incl. in "all coal"	
1906	251,050,809	56,599,771	1,856,313	18,590,213
1907	267,828,276	63,600,947	2,127,903	18,618,828
1908	261,512,214	62,547,175	2,274,792	19,474,174
1909	263,758,562	63,076,799	2,535,903	19,713,907
1910	264,293,588	62,085,476	2,425,932	19,525,735
1911	271,845,924	64,599,266	2,454,523	19,264,189
1912	260,567,552	64,445,004	2,547,712	18,291,370
1913	287,411,869	73,400,118	2,976,389	21,031,507
1914	265,643,030	59,039,880	2,389,190	18,535,579
1915	253,590,810	43,534,771	2,227,231	13,630,964
1916	256,375,366	38,351,553	1,999,503	12,988,172
1917	248,375,366	34,995,787	1,384,086	10,227,952
1918	227,714,579	31,752,904	1,162,090	8,756,476
1919	229,743,128	35,249,568	1,606,126	12,021,242
1920	229,531,194	24,931,853	1,641,190	13,840,360
1921	164,354,200	24,660,552	1,463,668	10,926,444
1922	262,846,200	64,198,384	2,520,275	18,259,027
1923	278,500,000	79,449,678	3,181,814	18,158,188

Great Britain—Weekly Output—1923.

Output by weeks for the year 1923 was as follows:

Week Ending	Tons	Week Ending	Tons	Week Ending	Tons
Jan. 6	4,384,300	May 12	5,603,400	Sept. 15	5,244,700
Jan. 13	5,607,300	May 19	5,796,600	Sept. 22	5,504,300
Jan. 20	5,583,400	May 26	3,737,000	Sept. 29	5,574,600
Jan. 27	5,644,200	June 2	5,527,000	Oct. 6	5,528,400
Feb. 3	5,601,200	June 9	5,654,300	Oct. 13	5,626,000
Feb. 10	5,566,900	June 16	5,651,100	Oct. 20	5,678,600
Feb. 17	5,559,600	June 23	5,588,200	Oct. 27	5,673,500
Feb. 24	5,519,100	June 30	5,400,700	Nov. 3	5,594,900
March 3	5,565,600	July 7	5,305,800	Nov. 10	5,571,900
March 10	5,713,000	July 14	5,041,900	Nov. 17	5,574,100
March 17	5,721,000	July 21	4,601,000	Nov. 24	5,726,300
March 24	5,703,000	July 28	5,111,700	Dec. 1	5,719,200
March 31	4,873,900	Aug. 4	5,253,600	Dec. 8	5,728,800
April 7	3,940,900	Aug. 11	3,566,400	Dec. 15	5,956,000
April 14	5,776,600	Aug. 18	5,124,000	Dec. 22	5,886,000
April 21	5,824,900	Aug. 25	5,163,800	Dec. 29	3,352,800
April 28	5,721,200	Sept. 1	5,280,600		
May 5	5,327,000	Sept. 8	5,320,300		

FOREIGN HOLIDAYS

Dates Celebrated by Natives of Countries Largely Represented in the Mines.

The matter of miners' holidays, particularly the days off taken by foreign miners, is frequently a matter of comment and consideration in the coal trade.

We give below a tabulation of the holidays scheduled for 1924 in certain of the foreign countries. Our records show that the great bulk of the foreign-born miners come from Austria, Hungary, Italy, Czechoslovakia, Poland, Esthonia, Finland and Latvia. It is probable that all of these days will be observed by the representatives of those nationalities employed at the mines.

Holidays of the Foreign Born.

January 6th, Epiphany—General.
January 7th, Christmas holidays—Jugoslavia, Lithuanian.
January 8th, Christmas holidays—Jugoslavia, Lithuanian.
January 19th, Theophany—Jugoslavia.
January 27th, St. Sava—Jugoslavia.
February 2d, Candlemas Day—Polish, Austrian and Hungarian.
February 16th, National Festival—Lithuanian.
February 21st, Fast Day—Latvian.
February 24th, Independence—Esthonian.
March 12th, Day of Penance—Esthonian.
March 15th, National Holiday—Hungarian.
March 25th, Assumption—Austrian, Czechoslovakia.
April 9th, Annunciation—Polish, Hungarian and Finnish.
April 11th, Sanction of 1848 Law of Independence—Hungarian.
April 17th, Holy Thursday—Austrian and Latvian.
April 18th, Good Friday—General.
April 19th, Holy Saturday—Slavonian.
April 21st, Easter Monday—General.
April 22d, Easter Tuesday—Latvian and Esthonian.
May 1st, Jubilee of Constitutional Assembly—Latvian.
May 1st, Labor Day—Finnish, Esthonian, Austrian and Slavonian.
May 3d, Constitution Day—Polish.
May 8th, St. Stanislas—Polish.
May 16th, St. John of Nepomuch, Slavonian.
May 19th, Saturday before Whit Sunday—Slavonian.
May 21st, Whit Monday—General.
May 22d, Whit Tuesday—Latvian and Esthonian.
May 29th, Ascension Day—General.
May 31st, Corpus Christi—Hungarian, Polish and Austrian.
June 7th, Saturday before Whit Sunday—Austrian, Czechoslovakia.
June 9th, Whit Monday—Austrian, Czechoslovakia.
June 19th, Corpus Christi—Austrian.
June 22d, Victory of Zehsis—Latvian.
June 23d, Mid-Summer Day—Latvian.

June 24th, St. John's Day—Esthonian.
June 29th, Sts. Peter and Paul—Austrian, Polish and Hungarian.
July 6th, Martyrdom of John Huss—Slavonian.
August 15th, Assumption—Austrian, Italian, Hungarian and Polish.
August 20th, St. Stephen of Hungary—Hungarian.
September 8th, Nativity—Austrian, Polish and Hungarian.
September 20th, National Holiday—Italian.
October 28th, Independence—Slavonian.
October 31st, Day of Reformation—Latvian.
November 1st, All Saints' Day—General.
November 12th, National Holiday—Austrian.
November 15th, St. Leopold—Austrian.
December 6th, Independence—Finnish.
December 8th, Immaculate Conception—Austrian, Polish and Hungarian.
December 24th, Bank Holiday—Slavonian.
December 26th, St. Stephen—Hungarian and Italian.
December 26th, Day after Christmas—Polish.
December 26th, Boxing Day—Slavonian.
December 26th, St. Stephen—Austrian and Finnish.
December 26th, Christmas Holiday—Esthonian and Latvian.
December 27th, Christmas Holiday—Latvian and Esthonian.

British Coal to United States and Canada.

Exports of coal from Great Britain to the United States and Canada in 1923, 1922 and 1921 by ports, were as follows:

Ports	United States			Canada		
	1921	1922	1923	1921	1922	1923
Bristol Channel	24,942	1,362,310	533,080	1,538	255,482	114,717
No. West Ports.....	.....	272,390	51,736	....	113,109	97,290
No. East Ports.....	.....	649,911	91,136	....	253,586	40,916
Humber Ports	2	357,940	23,312	....	57,469	100
Scotland E. Coast.....	.....	180,396	38,747	....	76,749	21,128
Scotland W. Coast.....	.....	270,972	19,703	110	80,892	95,080
Other ports E. Coast.....	.....	.....	.....	....	131	.....
Total	24,944	3,093,919	757,714	1,648	837,418	369,231

New Brunswick Coal Fields.

Coal seams of more or less importance have been discovered in many places in the Province of New Brunswick, but the most valuable and the only ones being operated are those in the Grand Lake field, about 70 miles north of St. John. The total area of the field is over 112 square miles, and it is estimated to contain from 52,000,000 to 155,000,000 tons of coal. Practically all of the coal produced is sold to the railroads.

BITUMINOUS COAL DUMPED AT LAKE ERIE PORTS

Details of Business Accomplished During the Most Active Year on Record—Toledo the Greatest Port.

We show below tonnage dumped at railroad piers at Lake Erie ports in 1922 and 1923:

Ports	Railroads	(In Net Tons) 1922 Cargo	1922 Fuel	1922 Total	(In Net Tons) 1923 Cargo	1923 Fuel	1923 Total
Toledo	H. V.	3,241,786	92,597	3,334,383	5,026,533	151,965	5,178,498
	T. & O. C.	860,814	27,965	888,779	1,182,193	36,966	1,219,159
	B. & O.	2,912,587	77,864	2,990,451	2,891,967	84,402	2,976,369
Sandusky	Penna.	2,794,264	99,730	2,893,994	3,008,096	95,726	3,103,822
Huron	W. & L. E.	430,222	17,587	447,809	1,481,428	58,439	1,539,867
Lorain	B. & O.	1,836,014	91,529	1,927,543	3,667,957	196,569	3,864,526
Cleveland	Penna.	1,056,464	93,239	1,149,703	1,870,527	201,470	2,071,997
	Erie	381,903	14,464	396,367	739,025	31,920	770,945
Fairport	B. & O.	.....	.....	.....	912,131	82,236	994,367
Ashtabula	N. Y. C.	1,515,608	88,464	1,604,072	3,380,040	255,746	3,635,786
	Penna.	1,674,618	90,038	1,764,656	2,147,144	94,482	2,241,626
Conneaut	B.& L.E.	1,618,192	63,317	1,681,509	2,783,640	242,057	3,025,697
Erie	Penna.	199,670	72,387	272,057	738,103	96,532	834,635
Totals		18,522,142	829,181	19,351,323	29,828,784	1,628,510	31,457,294

There was no tonnage dumped at Fairport in 1922.

Bituminous Shipments.

Total tonnage, cargo and bunker, by months, was as follows:

Month	1918	1919	1920	1921	1922	1923
January	.....	.....	.....	10,600	.....	.....
February	.....	.....	.....	103,377	9,277	5,555
March	.....	.....	.....	235,238	204,040	69,626
April	891,046	1,133,203	329,202	939,945	621,236	1,077,368
May	3,194,198	3,800,837	1,321,020	3,665,145	1,341,392	4,005,051
June	3,539,352	4,270,462	2,221,210	4,795,383	1,535,877	4,941,843
July	4,234,305	3,983,521	2,860,366	3,669,131	832,697	4,910,479
August	4,996,930	2,820,280	4,593,781	3,040,452	616,762	4,617,891
September	4,851,198	2,505,827	4,138,533	2,295,580	4,558,464	3,640,872
October	5,043,887	3,229,794	4,693,839	2,820,411	4,770,639	4,144,266
November	2,637,326	1,064,468	3,235,623	1,526,630	4,007,995	3,735,874
December	.....	.....	268,500	69,557	524,377	308,519
Total	29,388,242	22,750,392	23,667,138	23,171,449	19,351,323	31,457,294

Shipments by Ports.

Toledo	10,338,757	7,936,406	7,483,522	8,320,514	7,213,613	9,374,026
Sandusky	2,448,257	1,442,028	1,630,847	1,905,286	2,893,994	3,103,822
Huron	2,169,727	1,488,516	1,958,446	1,622,968	447,809	1,539,867

	1918	1919	1920	1921	1922	1923
Lorain	3,434,994	2,871,450	3,488,182	2,649,329	1,927,543	3,864,526
Cleveland ...	3,533,513	2,800,425	1,859,177	2,527,395	1,546,070	2,842,942
Fairport	317,548	29,646	.....	.....	.....	994,367
Ashtabula ...	3,699,048	3,873,791	3,959,855	3,566,315	3,368,728	5,877,412
Conneaut ...	2,245,892	1,382,719	2,446,960	1,494,805	1,681,509	3,025,697
Erie	1,200,470	925,311	840,039	1,084,839	272,057	834,635
Total ...	29,388,242	22,750,392	23,667,138	23,171,449	19,351,323	31,457,294

Coal and Coke Exports from Buffalo.

Exports of coal and coke from the Buffalo customs district, by months, during calendar years 1922 and 1923, were:

	Anthracite		Bituminous		Coke	
Month	1922	1923	1922	1923	1922	1923
January	148,043	226,379	233,458	404,895	5,472	40,833
February	164,254	219,233	387,923	342,881	8,597	39,495
March	198,084	230,155	425,836	388,671	6,749	33,147
April	49,270	239,721	117,221	317,291	4,021	36,816
May	22,702	209,911	41,192	277,124	6,411	38,494
June	21,522	193,558	65,725	262,973	4,384	28,199
July	9,478	207,800	58,749	253,655	2,778	23,449
August	18,115	202,047	162,400	247,080	6,739	34,110
September	41,948	61,756	233,036	283,950	10,743	28,300
October	198,096	195,067	284,352	236,702	20,802	26,946
November	174,636	155,830	293,113	165,252	24,576	12,150
December	187,583	197,572	387,836	272,945	85,545	15,737
Total 1,133,732		2,339,029	2,690,841	3,453,419	176,817	359,676

Receipts at Duluth-Superior Harbor During Season of 1923.

Month	Anthracite	Bituminous	Total	Month	Anthracite	Bituminous	Total
May ..	205,716	1,626,628	1,832,344	Oct. ..	194,910	1,457,266	1,652,176
June ..	235,008	1,863,046	2,098,054	Nov. ..	215,321	1,442,978	1,658,299
July ..	282,921	1,835,274	2,118,195	Dec. ..	24,884	133,679	158,563
Aug. ..	180,873	1,599,163	1,780,036				
Sept. ..	80,351	1,310,303	1,390,654	Total*	1,419,984	11,268,337	12,688,321

*To end of season, December 19, 1923.

Anthracite coal increased 853,622 tons compared with 1922. Bituminous increased 6,129,403 tons compared with 1922; total increase of 6,983,025 tons over 1922.

Comparative Statement of Close of Season for Past Several Years.

Year	Anthracite	Bituminous	Total	Year	Anthracite	Bituminous	Total
1917 ..	1,323,799	9,258,784	11,062,583	1921 ..	1,844,642	8,320,207	10,164,849
1918 ..	1,669,473	9,721,440	11,390,913	1922 ..	566,362	5,138,934	5,705,296
1919 ..	1,795,257	7,079,840	8,875,097	1923 ..	1,419,984	11,268,337	12,688,321
1920 ..	1,837,477	7,393,219	9,030,696				

Average total received during the past six years 1917-1922, 9,371,572.

The total increase of 3,316,749 tons received in 1923 over the average for the previous six years is 35 per cent.

BITUMINOUS WAGE ADVANCES

How Basic Rate in the Hocking Field Has Gone Up Since 1892.

The rate paid for pick mining in the Hocking district has long been the basing rate for the Central Competitive field. For that reason a record of the changes in the Hocking rate during the past quarter century is an accurate index to the trend of wages in the bituminous industry as a whole.

It is possible to present such a record through the courtesy of W. D. McKinney, secretary of the Southern Ohio Coal Exchange.

This shows that 1892, 1893, and up to February 17, 1894, the rate was 70 cents per net ton for screened lump coal.

The rate for subsequent years was as follows:

February 17, 1894, to April 21, 1894, 50 cents.
June 11, 1894 (when strike ended) to June 1, 1895, 60 cents.
June 1, 1895, to October 1, 1895, 51 cents.
October 1, 1895, to March 1, 1896, 55 cents.
March 1, 1896, to October 1, 1896, 61 cents.
October 1, 1896, to January 1, 1897, 45 cents.
January 1, 1897, to strike, July 4, 1897, 51 cents.
September 13, 1897 (when strike ended) to April 1, 1898, 56 cents.
April 1, 1898, to April 1, 1900, 66 cents.
April 1, 1900, to April 1, 1903, 80 cents.
April 1, 1903, to April 1, 1904, 90 cents.
April 1, 1904, to April 1, 1906, 85 cents.
April 1, 1906, to April 1, 1908, 90 cents.

(A strike was in effect from April 1 to July 18, 1906, with some mines paying the demands and working.)

April 1, 1908, to April 1, 1910, 90 cents. (Renewal of the previous agreement.)

April 1, 1910, to April 1, 1912, 95 cents.
April 1, 1912, to April 1, 1914, $1.

In the latter year the U. M. W. insisted on a change from the screened-lump to the mine-run basis in figuring miners' wages.

A new agreement was entered into, effective July 15, 1914, and running until April 1, 1916, which fixed the rate for pick mining at 67.6 cents per ton, mine-run basis.

This was renewed for two years practically without change. The rate from April 1, 1916, to April 1, 1918, was to have been 67.64 cents.

Early in 1917, however, the miners demanded another advance and the agreement was revised on April 16 of that year, the new rate being 77.64 cents.

In the fall the men demanded another raise, and for a second time the contract was modified. The new agreement, entered into on October 29, 1917, called for a rate of 87.64 cents, and was to expire at the end of the war, or not later than April 1, 1920.

On October 21, 1918, Frank J. Hayes, president United Mine Workers, urged H. A. Garfield, United States Fuel Administrator, to authorize another increase in wages. This increase was denied by Dr. Garfield on October 26, 1918.

In 1919 the U. M. W. again demanded an increase and called for a joint meeting, at which time they made a series of 13 demands, asking for an increase of 60 per cent in wages, five days per week and six hours a day.

Representatives of the operators and miners met in Buffalo, September 25, 1919, and, again in Philadelphia, October 9th, and again at the call of Secretary of Labor Wilson in Washington on October 21st, at all of which meetings the operators and miners failed to agree, and on November 1st the U. M. W. went on strike. It lasted some six weeks.

The Bituminous Coal Commission was then appointed by the President of the United States and after a long hearing they formulated a new wage scale which was accepted by the operators and miners and became effective April 1, 1920, increasing day labor from $5 to $6, cutting and loading from 70 cents to 94 cents.

In June of 1920 the Illinois miners went on strike for an increase in day wage, which resulted in a call by President Wilson for a conference of the operators and miners of the Central Competitive Field which convened at Cleveland on August 13; after five days the conference could not agree and adjourned.

The subject was then taken up in the State district meetings, and Ohio operators came to an agreement with the miners on August 28, 1920, advancing the day wage $1.50, making the basic day wage $7.50, expiring April 1, 1922, and renewed in August, 1922, for the period to April 1, 1923, and in January a further agreement to April 1, 1924. On February 16th the argreement was extended for a further period of three years, or until March 31, 1927.

Central Pennsylvania Wage Increases.

Up to April 1st, 1900, the wages of the highest paid men working by the day in central Pennsylvania was $1.90. Motormen were paid $1.75. From 1901 to 1903 the standard rate was $2.25. In 1904 it was $2.40. In 1905 it was reduced to $2.27. In 1907 it was restored to $2.40. In 1910 and 1911 it was $2.53, remaining at that figure until April 1st, 1916, when it was raised to $2.77.

With the world war, higher wages ensued. The same class of rates was advanced in April, 1917, to $3.60. On November 1st, 1917, as a result of another demand on the part of the miners, wages were advanced to $5.00 a day. The national strike began November 1st, 1919, and lasted about six weeks, the men returning to work on a rate of $5.70 per day.

On April 1st, 1920, under the award of the Bituminous Coal Commission, the wage was advanced to $6.00. The miners, protesting against that decision, forced another increase on August 15th, 1920, to $7.50, so that in twenty years wages advanced from $1.90 per day to $7.50 per day. The rate for pick mining in the Central Pennsylvania district went from 50 cents per ton in 1900 to $1.2803 a ton, the present rate. The miners can, and do, earn at these rates from $150 to $350 per month.

The anthracite tonnage tax of one and one-half per cent is collected by the State of Pennsylvania on coal dredged from the Susquehanna River and other streams. It is estimated that the dredges will pay approximately $9,000 on the product reclaimed in 1923, indicating a marketable value of $600,000.

ILLINOIS WAGE AGREEMENT

The wage agreement for Illinois mines, effective as of April 1, 1920, for two years, was executed and signed May 20, 1920, and again signed August 22, 1922, for a continuation until March 31, 1923. Following are the pick wage rates in the several districts of the state:

The prices for pick mined coal, per ton of 2,000 pounds, throughout the State of Illinois, shall be as follows:

First District.

Streator, Cardiff, Clark City, Fairbury and associated mines, including Toluca thick vein	$1.17
(Matter of clay parting at Streator referred for local settlement.)	
Third vein and associated mines, including third vein at Streator, including twenty-four inches of brushing	1.37
Wilmington and associated mines, including Bloomington thin vein, including brushing	1.42
Cherry, Bureau County, Middle Vein (Saint Paul Coal Company)	1.17
Bloomington thick vein	1.32
Pontiac, including twenty-four inches of brushing	1.42
Pontiac top vein	1.17
Marseilles	1.68
Morris, long wall, Wilmington conditions	1.59
Morris, room and pillar	1.74
Seneca, long wall (see local agreement)	1.52
Cornell, long wall, third vein conditions	1.37
Cornell, room and pillar	1.25

Second District.

Danville, Westville, Grape Creek and associated mines Vermilion County.	1.08

Third District.

Springfield, Dawson and associated mines	1.87
Lincoln and Niantic	1.12
Colfax	1.12

Fourth District.

Mines on the C. & A., south of Springfield, to and including Carlinville; including Taylorville, Pana, Tower Hill, Litchfield, Hillsboro, Witt (Paisley), Divernon Pawnee, Nokomis and Kincaid	1.08
Assumption, long wall, including twenty-four inches of brushing	1.34
Moweaqua, room and pillar	1.12
Decatur, long wall, present condition	1.23
Decatur, room and pillar	1.17

Fifth District.

Glen Carbon, Belleville and associated mines, to and including Percy, Pinckneyville, Willisville and Nashville	1.08
Coal five feet and under	1.13

Sixth District.

DuQuoin, Odin, Sandoval, Centralia and associated mines	1.04
Salem and Kinmundy	1.09

Seventh District.

Mt. Vernon	$1.09
Jackson County	1.04
All coal five feet and under, five cents extra per ton.	
Lower Bench, Jackson County, for shipping mines, miners to carry 14 inches of brushing	1.17
Saline, White and Gallatin County	1.04
Williamson and Franklin County	1.04

Eighth District.

Fulton and Peoria Cos., thin or lower coal (Third Vein conditions)	1.37
Clinton and Peoria Counties, No. 5 Vein	1.15
Astoria No. 5 Vein (Fulton and Peoria County conditions)	1.15
Fulton and Peoria County No. 6 Vein	1.24
Gilchrist, Wanlock, Cable and Sherrard and Silvis Mines at Ellisville	1.19
Kewanee, Etherly and Wyoming	1.24
Pekin, shipping mines only	1.15

Ninth District.

Mount Olive, Staunton, Gillespie, Benld, Sorento, Coffeen and Worden, and mines on the Vandalia line as far east as and including Smithboro, and on the B. & O. S. W. as far east as Beckemeyer	1.08
Coal five feet and under	**1.13**

The following is the scale for inside and outside day labor.

Inside and Outside Day Wage Scale.

Tenth. The inside and outside day wage scale shall be as follows:

Mine examiners, day or night	8.04
Tracklayers	7.50
Tracklayers' helpers	7.25
Boy trappers, spraggers, couplers and switch throwers employed elsewhere than at bottom of shaft or on mechanical haulage after coupled thereto	4,00
Couplers getting $1.57 under agreement effective April 1, 1916, now to receive, per day	4.00
Boy trappers, spraggers and couplers getting $1.64 under agreement effective April 1, 1916, now to receive, per day	4.59

Spraggers, couplers and switch throwers, either at bottom of shaft or on mechanical haulage after coupled thereto, to receive $1.35 per day more than rates paid October 31, 1919.

Bottom cagers	7.50
Drivers	7.50
Trip riders and grippers	7.50
Water haulers and machine haulers	7.50
Timbermen, where such are employed	7.50
Pipemen for compressed air plants	7.41
Brushers in long wall mines, Third Vein and Wilmington fields	7.50

Other company men, long wall mines, Third Vein and Wilmington field	$7.25
Shot firers, per hour	1.18
All other inside day labor	7.25

The scale wages now being paid outside day labor at the various mines in this State shall be the wage scale for that class of labor during the life of this agreement, with a minimum of $6.86 per day. Firemen and stokers shall receive $7.25.

Connellsville Mining Rate.

Date in Effect	Mining, Loading room, rib, 100 bu.	Inside Labor per day	Outside Labor per day	Date in Effect	Mining, Loading room, rib, 100 bu.	Inside Labor per day	Outside Labor per day
Feb. 10, 1894..	$0.78	$1.35	$1.35	Feb. 1, 1916...	1.44	2.30	2.30
April 1, 1895..	0.90	1.50	1.35	May 8, 1916..	1.66	2.40	2.40
Oct. 1, 1895...	0.95	1.59	1.59	Dec. 16, 1916..	1.82	2.75	2.75
Jan. 1, 1896...	1.05	1.65	1.68	May 1, 1917..	2.00	3.00	3.00
April 29, 1899.	1.12½	1.72½	1.75½	Oct. 1, 1917...	2.16	3.25	3.00
March 1, 1900.	1.25	1.87½	1.90½	Nov. 10, 1917.	2.29	4.15	3.30
Jan. 1, 1903...	1.35	1.97½	2.00½	Dec. 1, 1919..	2.66	4,75	4.00
Dec. 16, 1903..	1.10	1.65	1.75	April 1, 1920..	3.24	5.05	4.40
March 1, 1905.	1.20	1.75	1.85	Sept. 1, 1920..	3.24	6.55	5.40
March 1, 1907.	1.35	1.95	2.00	May 16, 1921..	2.65	4.55	3.30
Jan. 1, 1908...	1.20	1.75	1.85	Aug. 1, 1921..	2.38	4.15	3.00
Jan. 16, 1910..	1.35	2.00	2.00	Aug. 23, 1922..	3.24	6.55	3.60
April 1, 1912..	$1.44	$2.15	$2.15	1923	3.24	6.55	3.60

Other rates as shown in Frick wage scale rise and fall in proportion with the above.

Canadian Coal Imports.

Imports of anthracite and bituminous coal into Canada from the United States 1922 and 1923 were:

	Anthracite		Bituminous	
	1922	1923	1922	1923
Nova Scotia	23,643	53,739	6,233	52,297
New Brunswick	43,444	90,343	61,501	102,282
Prince Edward Island	5,989	4,303	1,355	1,263
Quebec	835,290	1,816,409	1,264,570	3,160,489
Central Ontario	1,715,071	3,062,208	8,115,536	11,717,298
Head of Lakes	43,816	82,558	1,722,836	2,350,704
Manitoba and Head of Lakes	59,059	55,856	1,793,010	112,134
Saskatchewan	231	2,291	1,404	1,607
Alberta	.....	.....	1,130	1,110
British Columbia	35	174	9,899	20,250
Total	2,682,741	5,167,881	11,254,638	17,519,439

Kanawha Wage Scale.

We show below the union wage rates prevailing at certain of the Kanawha region mines and in parallel column the rates put in effect by the majority of the open shop mines, same being the schedule put in effect November 1, 1917. The scale of prices has as its basis 2,000 pounds—run-of-mine.

Kanawha Thick Vein Nos. 1 and 2 Seams.

	Union	Non-Union
Pick mining	$0.94½	$0.70½
Pick mining, Powelton Seam	.91¾	...
Yardage in entries and breakthroughs between entries	1.49½	...
Machine loading in rooms	.63	.44
Machine loading in entries, breakthroughs in entries and room necks	.69	.41
Machine cutting in both rooms and entries	.14	.08
Machine cutting turret and arc wall	.08½	...

Drawing pillars by pick in the gas seams shall be left to local adjustment by the operators and miners interested, but the rate agreed upon for said drawing of pillars, shall in no case be less than 85.5 cents per net ton run-of-mine.

No yardage is to be paid in air ways following entries, or breakthroughs where the width exceeds fifteen feet.

Kanawha Hard Coal No. 5 Seam.

	Union	Non-Union
Pick mining	$0.96½	$0.72½
Yardage in pick entries and breakthroughs between entries	1.64½	1.37
Machine loading in rooms	.64	.45
Machine loading in entries and breakthroughs in entries and room necks	.70¼	.49½
Machine cutting in rooms	.14½	.10½
Machine cutting in entries and breakthroughs between entries and room necks	.15½	.11½
Machine cutting turret and arc wall	.09¼	...

Screened coal to be paid on basis of percentage of screenings.

Drawing pillars by pick in the splint seams shall be left to local adjustment by the operators and miners interested, but the rate agreed upon for said drawing of pillars shall in no case be less than 91½ cents per net ton run of mine.

Inside Labor Per Day.

	Union	Non-Union
Drivers, single mule	$6.95	$4.45
Drivers, two mules	7.11	4.61
Track layers	7.04	4.54
Track layers' helpers	6.76	4.24
Slate shooters	6.82	4.32
Greasers	3.65	2.30
Trappers	3.65	2.30
Spraggers and couplers	3.90	2.55
All other inside day labor	6.70	4.20

	Union	Non-Union
Motor and machine runners	$7.18	$4.68
Old men trappers	5.02	...

As a matter of historical reference we mention for comparison rates of past 20 years in Kanawha Thick Vein Seams: April 1, 1903, 45 cents; April 1, 1904, 42½ cents; April 1, 1906, 45 cents; April 1, 1908, 45 cents; April 1, 1910, 47½ cents; April 1, 1912, 49 cents; April 1, 1914, 49 cents; April 1, 1917, to December 31, 1918, 55½ cents; supplement July 1, 1917, 60½ cents; supplement November 1, 1917 to March 31, 1920, 70½ cents; Gardfield award December 1, 1919, 94½ cents; July 27, 1920, to March 31, 1922, 94½ cents; to March 31, 1924, 94½ cents.

PITTSBURGH WAGE SCALE

The wage scale posted by the members of the Pittsburgh Coal Producers' Association August 24, 1922, follows:

Effective August 24th and until March 31, 1923, and extended to March 31, 1924, and further extended to March 31, 1927, the following scale of wages will be paid in the Pittsburgh district.

Pick mining—Thin vein mines, per ton of 2,000 lbs. mine run	$1.1164
Pick mining—Thick vein mines, per ton of 2,000 lbs. mine run	1.0311
Cutting—Thin vein mines, per ton of 2,000 lbs. mine run	.1692
Loading—Thin vein mines, per ton of 2,000 lbs. mine run	.7708
Cutting—Thick vein mines, per ton of 2,000 lbs. mine run	.1494
Loading—Thick vein mines, per ton of 2,000 lbs. mine run	.7337
Motormen, per day of 8 hours	7.60
Motormen helpers, per day of 8 hours	7.50
Skilled wiremen, per day of 8 hours	7.50
Wiremen helpers, per day of 8 hours	7.25
Track layers, per day of 8 hrs.	7.50
Track layers' helpers, per day of 8 hours	7.25
Bottom cagers, per day of 8 hours	7.50
Drivers, per day of 8 hours	7.50
Trip riders, per day of 8 hrs.	7.50
Water and machine haulers, per day of 8 hrs.	7.50
Timbermen, where employed, per day of 8 hrs.	7.50
Pipemen for compressed air plants, per day of 8 hrs.	7.42
Trappers, per day of 8 hrs.	4.00
All other inside labor, per day of 8 hrs.	7.25
Dumpers, per day of 8 hrs.	6.92
Ram operators, per day of 8 hrs.	7.10
Pushers, per day of 8 hrs.	6.68
Trimmers, per day of 8 hrs.	6.86
Car cleaners, per day of 8 hrs.	6.60

Dead work and yardage will be paid for at the scale in effect in 1921.

A new colliery in the Glace Bay District of Canada has been opened to recover coal from the nearby submarine areas where there is an estimated reserve of 100,000,000 tons. It is expected that this colliery will be producing before the end of 1924.

Coal Freight Rates.

We quote below, as a matter of record, the new freight rates from certain southwestern Pennsylvania districts, as reported by the Connellsville "Courier."

TO EASTERN POINTS Rate per Gross Ton of 2,240 lbs.	Pittsb'g (9)	Connellsville, Westmoreland, Fairmont (8)	Originating G'burg (7)	District Latrobe (6)
Baltimore, Md. (Track Deliv.)	$3.24	$3.09	$2.94	$2.84
Chester, Pa. (P. R. R.)	3.24	3.09	2.94	2.84
Chester, Pa. (P. & R.)	3.24	3.09	2.94	2.84
Harrisburg, Pa. (P. R. R.-P. & R.)	2.73	2.58	2.43	2.33
Johnstown, Pa. (B. & O.)	1.39	1.39		
*Johnstown, Pa. (P. R. R.)	1.64	1.64		
Lebanon, Pa. P. R. R. and P. & R.	3.11	2.96	2.81	2.71
New York, N. Y. (37th St.)	3.49	3.34	3.19	3.09
New York, N. Y. (Bklyn.)	3.62	3.47	3.32	3.22
Philadelphia	3.24	3.09	2.94	2.84
Sparrows Point	3.24	3.09	2.94	2.84
Steelton, Pa.	2.73	2.58	2.43	2.33
South Bethlehem, Pa.	3.36	3.21	3.06	2.96
Syracuse, N. Y.	3.36	3.21	3.06	2.96
To ATLANTIC PORTS via P. R. R.				
Greenwich, local	3.24	3.09	2.94	2.84
Greenwich, export	2.72	2.47	2.42	2.32
South Amboy, F. O. B. vessels	3.14	2.99	2.84	2.74
Harsimus Cove	3.19	3.04	2.89	2.79
Greenville	3.19	3.04	2.89	2.79
Canton, Balto., local	3.24	3.09	2.94	2.84
Canton, Balto., export	2.65	2.50	2.35	2.25
To ATLANTIC PORTS via B. & O.				
St. George Coal Piers	2.99	3.34		
St. George for Export	3.14	2.99		
Philadelphia, Local	3.24	3.09		
Philadelphia for Export	2.72	2.47		
Curtis Bay, Local	3.24	3.09		
Curtis Bay for Export	2.65	2.50		

*The rate from points on the Monongahela Railway in the Fairmont group south of the Pennsylvania State line to Johnstown is $1.76 per net ton. Rates to Johnston from Greensburg and Latrobe groups apply specifically from point of origin to destination.

The Connellsville rate applies to shipments from points on the Southwest Branch of the Pennsylvania railroad south of Ruffsdale; from points on the Pittsburg, Virginia & Charleston and points on the Monongahela River railroad.

The Fairmont rate on shipments via the Baltimore & Ohio applies to shipments from points east of Suterville, Pa.; from points on the Smithfield & Masontown Branch and from the Fairmont Region of West Virginia.

TO WESTERN POINTS. Per Net Ton of 2,000 Lbs.	Pittsburgh Group (1)	Originating District—Upper C'ville (2)	Originating District—Lower C'ville (3)
Canton, O.	$1.59	$1.65	$1.84
Chicago, Ill.	3.09	3.09	3.09
Cleveland, O.	1.84	1.90	1.99
Columbus, O.	1.89	2.02	2.14
Detroit, Mich.	2.58	2.58	2.58
Indiana Harbor, Ind.	3.09	3.09	3.09
Toledo, O.	2.39	2.39	2.39
Youngstown, O.	1.34	1.42	1.58
Lake Ports	1.66	1.72	1.81
To CANADIAN BASING POINTS.			
Buffalo, N. Y.	2.24	2.39	2.39
Port Maitland, Ont.	2.24	2.39	2,39

These rates apply in a general way to shipments from the territory described. There are, however, numerous extensions to the specific rates quoted and in each case before applying the rate as a basis for freight charges the shipper or consignee should determine the exact location of the mine from which the business will move, then refer to the Tariff naming the rate in question.

The Pittsburgh District includes points east as far as Latrobe and south on the Southwest Branch to and including Ruffsdale; south to, but not including Brownsville on the Pittsburg, Virginia & Charleston railroad, eastward to Dawson on the Baltimore & Ohio railroad, and eastward to Dickerson Run and southwest to and including Brownsville on the New York Central lines.

The Connellsville District includes points on the Southwest Branch of the Pennsylvania railroad south of Ruffsdale; on the Pittsburg, Virginia & Charleston except Braznell and all Monongahela River railroad points; New York Central points east of Dickerson Run, including Connellsville Transfer, and points on the Baltimore & Ohio, Dawson to Point Marion, Pa.

A Bushel of Coal.

The weight of a bushel of coal is:

In Indiana	70 lbs.
In Pennsylvania	76 lbs.
In Alabama, Colorado, Georgia, Illinois, Ohio, Tennessee and West Virginia	80 lbs.

A net ton (2,000 lbs.) would contain the following:

In Indiana	28.57 bushels
In Pennsylvania	26.32 bushels
In Alabama, Colorado, Georgia, Illinois, Ohio, Tennessee and West Virginia	25.00 bushels

The United States in 1923 imported 757,714 tons of coal from Great Britain. In 1922 the tonnage received from British ports amounted to 3,093,919 tons.

Rates on Lake Cargo Coal, F. O. B. Cars on Docks at Various Ports. Also Handling Charge.

We show below in cents per ton the rates charged on lake cargo coal from various districts shipping to the Lake Erie loading ports:

Year	No. 8 Hocking Cambridge	Middle	Youghiogheny Pittsburgh Moundsville	Connellsville Klondike	Fairmount	Cumberland Piedmont Gauley	Meyersdale	Kanawha Thacker Logan Pocahontas	New River Pocahontas
1910	85	70	88	96¾	96¾	115	115	97	112
1911	85	70	88	96¾	96¾	115	115	97	112
1912	75	60	78	90	90	112	112	97	112
1913	75	60	78	90	90	112	112	97	112
1914	75	60	78	90	90	112	112	97	112
1915	75	60	78	90	90	112	112	97	112
1916	75	60	78	90	90	112	112	97	112
(4/16) 1917	90	75	93	105	105	127	127	112	127
(7/13) 1917	90	75	93	99	108	120	115	118	133
(6/25) 1918.....	127	112	130	136	145	157	152	155	170
(8/26) 1920	183	168	186	192	201	213	208	211	226
*(5/4) 1921	155	140	158	164	173	185	180	183	198
**(11/1) 1921 ..	183	168	186	192	201	213	208	211	226
(7/1) 1922	163	148	166	172	181	193	188	191	206
1923	163	148	166	172	181	193	188	191	206

Handling charge—5 cents net ton increased to 6 cents net ton in September and October, 1917. Figures given are rates per net ton.

Handling charge, effective August 26, 1920 (and for 1921 Season)—Cargo, .08½; Fuel, .11.

Handling charge, effective July 1, 1922—Cargo, .08; Fuel, 10c net ton.

*Rates in effect 5/4/21 will apply only on coal discharged from vessels at West Bank Lake Michigan ports north of the Illinois-Wisconsin State line, to and including Manistique, Michigan, or Lake Superior ports west of Whitefish Point, Michigan, including Port Arthur and Fort William, Ontario, Canada.

August 1, 1921, the above was superseded by the following:

Rates will apply only on coal discharged from vessels at ports on the Great Lakes, and tributary waters in the United States or Canada, on north and west of the Detroit River. (Expires Midnight October 31, 1921.)

**The 28c reduction was suspended on October 31, 1921, by all roads except the B. & L. E. and the W. & L. E. These roads continued the low rate until the close of the lake season. The B. & O. re-established the low rate on Crescent coal November 11, 1921, and on Ohio coal November 26, and continued the reduction until November 30, 1921.

The Interstate Commerce Commission allowed a reduction of 28 cents per ton during the summer months of 1921 to stimulate lake trade.

Eastern Freight Rates.

	Rates Per Gross Ton					
	Clearfield, Cumberland, Meyersdale		West Virginia, Westmoreland		Pittsburgh, Finleyville, Gauley	
	Old	New	Old	New	Old	New
NEW YORK HARBOR						
Track (Jersey City)	3.46	3.09	3.71	3.34	3.86	3.49
Tide (Upper ports)	3.16	2.79	3.41	3.04	3.56	3.19
Tide (Lower ports)....	3.11	2.74	3.36	2.99	3.51	3.14
PHILADELPHIA						
Track	3.18	2.84	3.43	3.09	3.58	3.24
Tide (Inside capes)	2.93	2.59	3.18	2.84	3.33	2.99
Tide (Outside capes) ...	2.60	2.32	2.85	2.57	3.00	2.72
BALTIMORE						
Track	3.18	2.84	3.43	3.09	3.58	3.24
Tide (Inside capes)	2.93	2.59	3.18	2.84	3.32	2.99
Tide (Outside capes) ...	2.53	2.25	2.78	2.50	2.93	2.65
	Pocahontas, New River		Kanawha, Thacker		Kenova	
	Old	New	Old	New	Old	New
HAMPTON ROADS						
Tide (Inside capes)	3.04	2.74	3.14	...	3.24	...
Tide (Outside capes) ...	2.80	2.52	2.90	2.62	3.00	2.72

Explosives Used in 1922.

The quantity of explosives of all kinds used for miscellaneous purposes in 1922 amounted to 97,261,148 pounds, compared with 81,650,287 pounds used in 1921. Pennsylvania, as usual, was by far the leading State in the consumption of explosives, having used 18,669,539 pounds of permissibles, 31,509,040 pounds of high explosives other than permissible, and 1,169,690 kegs of black blasting powder.

West Virginia was second in the use of permissible explosives, with a consumption of 8,552,719 pounds; Alabama was third, with 4,292,969; and Illinois was fourth, with 2,758,300 pounds. Illinois ranked next to Pennsylvania in the consumption of black blasting powder, having used 1,160,865 kegs or 29,021,625 pounds, a large percentage of which was employed in coal mining.

Consumption of Coal in Lithuania.

The consumption of coal and coke in Lithuania is very limited, only from 55,000 to 60,000 metric tons of coal being imported annually. The Government railways consume about 50,000 tons and the remainder is used by various manufacturers. Practically all of the coal imported comes from England by way of the new Lithuanian port of Memel and is then distributed by the Government railroads. No coal fields have as yet been discovered in Lithuania; wood is used for all general heating purposes and most of the power stations depend upon peat for their fuel.

BY-PRODUCT COKE PRODUCTION BY STATES

Fifty Per Cent Increase Shown by Returns of Past Five Years—Pennsylvania and Ohio Lead.

The following tabulation shows the production of by-product coke by States in 1922 and four years previous:

State	1919	1920	1921	1922	1923
Alabama	2,230,933	3,075,000	2,401,000	3,493,000	4,325,000
Colorado	412,863	511,000	287,000	365,000	448,000
Illinois	1,703,903	2,086,000	1,322,000	1,983,000	3,162,000
Indiana	3,702,180	4,567,000	3,091,000	3,995,000	4,970,000
Kentucky	408,278	466,000	185,000	457,000	435,000
Maryland	356,237	685,000	293,000	590,000	864,000
Massachusetts	393,331	531,000	294,000	407,000	604,000
Michigan	.....	1,433,000	777,000	1,142,000	1,650,000
Minnesota	586,094	664,000	436,000	462,000	693,000
New Jersey	788,465	722,000	740,000	791,000	893,000
New York	751,067	1,041,000	747,000	1,495,000	1,782,000
Ohio	5,374,027	5,697,000	2,966,000	4,912,000	6,247,000
Pennsylvania	5,872,762	7,710,000	5,304,000	7,152,000	9,312,000
Tennessee	104,749	138,000	58,000	27,000	124,000
Washington	26,547	23,000	24,000	6,000	31,000
West Virginia	392,812	414,000	188,000	502,000	924,000
Other States *a*	.....	1,590,426	637,000	772,000	1,053,000
Total	25,143,542	30,908,000	19,750,000	28,551,000	37,527,000

(*a*) Includes Missouri, Rhode Island and Wisconsin (Michigan in 1919), combined to avoid disclosing operations of individual companies.

Production of Beehive Coke, by Groups of States in 1921-1923.

States	1921	1922	1923
Pennsylvania and Ohio	4,528,000	6,939,000	14,484,000
West Virginia	210,000	418,000	1,037,000
Alabama, Tennessee and Georgia	168,000	432,000	1,079,000
Virginia and Kentucky	380,000	379,000	721,000
Colorado and New Mexico	99,000	207,000	371,000
Washington and Utah	153,000	198,000	268,000
Total	5,538,000	8,573,000	17,960,000

Monthly Production of Beehive and By-Product Coke.*

Month	Beehive	By-product	Month	Beehive	By-product
Monthly average, 1921	462,000	1,646,000	May	1,827,000	3,328,000
1922	714,000	3,127,000	June	1,753,000	3,166,000
January, 1923.	1,477,000	3,100,000	July	1,581,000	3,267,000
February	1,481,000	2,810,000	August	1,493,000	3,239,000
March	1,748,000	3,256,000	September	1,372,000	3,113,000
April	1,774,000	3,206,000	October	1,289,000	3,101,000
			November	1,102,000	2,942,000
			December	1,063,000	2,999,000
			Total 1923	17,960,000	37,527,000

*Estimated.

Production of Beehive and By-Product Coke in the United States 1913-1923.

Year	Beehive	By-product	Total	Year	Beehive	By-product	Total
1913	33,584,830	12,714,700	46,299,530	1920	20,511,092	30,833,951	51,345,043
1915	27,508,255	14,072,895	41,581,150	1921	5,538,042	19,749,580	25,287,622
1917	33,167,548	22,439,280	55,606,828	1922	8,573,467	28,550,545	37,124,012
1918	30,480,792	25,997,580	56,478,372	1923	17,960,000	37,527,000	55,487,000
1919	19,042,936	25,137,621	44,180,557				

Nova Scotia Output—1874-1922.

(Short tons)

Year	Output	Year	Output	Year	Output
1874	977,446	1891	2,290,158	1907	6,468,563
1875	874,905	1892	2,175,913	1908	6,805,489
1876	794,804	1893	2,489,807	1909	5,718,871
1877	848,396	1894	2,520,707	1910	6,515,162
1878	863,075	1895	2,239,727	1911	7,125,551
1879	882,863	1896	2,537,706	1912	7,834,724
1880	1,150,635	1897	2,020,835	1913	8,135,104
1881	1,250,183	1898	2,584,175	1914	7,448,042
1882	1,529,708	1899	3,209,296	1915	7,513,739
1883	1,503,259	1900	3,694,646	1916	6,911,995
1884	1,556,011	1901	4,279,557	1917	6,345,335
1885	1,514,470	1902	5,292,538	1918	5,836,370
1886	1,682,924	1903	5,841,429	1919	5,790,196
1887	1,871,330	1904	5,747,823	1920	6,437,156
1888	1,989,263	1905	5,821,622	1921	5,734,928
1889	1,967,032	1906	6,546,191	1922	5,569,072
1890	2,222,081			Total	188,975,812

Per Capita Consumption.

Figures obtained from Government sources by the Central Pennsylvania Coal Producers' Association show that the per capita consumption of bituminous coal in the United States reached its maximum in 1917 and has declined since then. In the following year, 1918, this dropped to 5.1 tons, and the crude oil consumed for the latter period was 4.0 barrels.

During 1923, a period of great commercial activity, the per capita consumption of bituminous coal dropped to 4.4 tons, while consumption of crude oil increased to 6.0 barrels per capita, a reduction of 13.7% in the consumption of bituminous coal and an increase of 50% in the consumption of crude oil.

Details are shown below:

	Per Capita			Per Capita	
Year	Net Tons Bituminous Coal	Barrels Crude Petroleum	Year	Net Tons Bituminous Coal	Barrels Crude Petroleum
1917	5.2		1921	3.7	4.9
1918	5.1	4.0	1922	3.9	5.4
1919	4.6	4.0	1923	4.4	6.0*
1920	4.9	5.0	*Estimated.		

While use of coal has decreased 15 per cent, use of oil has increased 50 per cent.

CONNELLSVILLE COKE TRADE

Production Largest Since 1918 and Shows Ability of Region to Stage a Vigorous "Come Back."

During 1923 the Connellsville region produced an estimated total of 13,114,340 net tons of coke having an aggregate market value, at the average of $5.90 per ton for the year, of $77,374,606. Not since 1918 has the output been so large and in only three years in the region's entire history has the value been greater says the "Courier."

Compared with 1922 last year's output gained 7,437,840 tons, or 131.2 per cent. This was more than three times the gain made in 1922 over 1921, which previously had been the record among year-to-year increases.

The year just closed was one of five years during which the average price of coke reached the highest points in the curve, the extreme range of which has been from $1.13 in 1884 to $8.30 in 1920. In only five years during the 45 in which The Courier's statistics have been compiled has the average price been $5.90 or higher. These years and their respective averages were: 1917, $6.25; 1918, $7.25; 1920, $8.30; 1922, $7.15, and 1923, $5.90.

In consequence, 1923 is one of the years standing out conspicuously in the gross sales realization of the region's product. The high tide occurred in 1918 when $117,004,777 was reached. The nearest approach since was in 1920 when the output of 10,750,227 tons was rated at $89,226,884. With this single exception no one of the immediately preceding four years has equalled 1923 in the matter of value of coke.

That the output during 1923 more than doubled that of 1922, and was 33 per cent larger than the combined output of 1922 and 1921, and surpassed both 1920 and 1919 by almost 3,000,000 tons, shows that the Connellsville region still is capable of staging a strong "come back," after having sustained stunning body blows by the unprecedented depression of 1921 and the prolonged sympathy strike of 1922, and meantime having felt the effects of a steady strengthening of the competition from by-product ovens.

That the 1923 record was the achievement of a year the last half of which developed conditions requiring vigilance in restricting output to conform to gradually decreasing demand, rather than calling for effort to increase it, furnishes quite conclusive proof that even now all the region needs to still more closely approach 1913, 1916 and other banner production years, is a fairly good demand for its premier product evenly distributed over a twelvemonth.

Output Gained During First Half but Declined in Second.

Except for the necessity having developed to restrict production beginning near the close of the third quarter and continuing with more or less persistence until the end of the year, the quantity of coke made during 1923 would more likely have exceeded that made in 1922 by 200 or more per cent instead having been but 131.2 per cent greater.

January began under the stimulus of an active demand and intensive efforts on the part of producers to overcome the disastrous effects of the

prolonged sympathy strike of 1921. From 217,850 tons in the first week of the year there was a steady weekly gain to 306,520 tons in the week ended April 14th. A slight recession occurred at that time and thereafter, until the week of June 23rd when the weekly maximum was 306,720 tons, the weekly average held close around 300,000 tons. With the last week of June there began to be noticeable evidences of another falling off in demand. At first it was regarded as temporary in character, and incident to the approach of the mid-summer dull period. The advent of September showed, however, that the revival expected to take place with the early fall had not materialized. Meantime production had declined to 239,210 tons, a drop of 67,510 tons or 22 per cent from the high tide of June 23rd.

The course during September, October and November was steadily toward a lower weekly average, the extreme low point of the year having been reached during the week of December 1st when the regional total was but 174,170 tons. From thence to the close of the year there were successive weekly increases to 195,420 tons in the pre-Christmas week. The observance of the holiday caused a loss which was in about the same ratio as in previous years.

It is noteworthy, as indicating the vigor of the region's revival, that the smallest week's production of 174,170 tons was 37 per cent larger than the weekly average of 108,970 tons during 1922, and that the weekly average of 1923 was almost one and one-third greater than the average of 1922.

Another significant fact brought to notice by the production statistics is that the merchant operators made much the greater progress in swelling production than the furnace operators. The gain by the former was 3,422,280 tons, or 194.3 per cent, over their production in 1922. The furnace gain of 4,012,880 tons was larger in amount than the merchant gain but it represented an increase over 1922 of but 50.6 per cent.

Relatively the same difference is shown in the records of the two districts comprising the region. The Lower Connellsville district increased its output by 4,019,675 tons, which was 235.5 per cent greater than the output of the preceding year. The Connellsville district made 3,415,675 more tons in 1923 than in 1922, but the increase was but 86.2 per cent as contrasted with the merchant increase.

The Lower Connellsville district made further progress during the year toward a return to normal in its production. Having been hardest hit by the strike in 1922 its share of the regional tonnage in that year dropped to 30.1 per cent, as compared with 58.8 in 1921. In the year just closed this district's proportion rose to 43.8 per cent while that of the Connellsville district fell to 56.2 as contrasted with 69.9 in 1922.

Coke Output by Districts.

The estimated production of coke during 1922 and 1923 in short tons by quarters in the two districts was as follows:

	Conn.		Low Conn.		Total	
Quarter	1922	1923	1922	1923	1922	1923
First	787,012	1,883,000	572,025	1,504,490	1,359,037	3,387,490
Second	779,682	2,191,680	121,200	1,727,970	900,882	3,919,650

Quarter	Conn. 1922	Conn. 1923	Low Conn. 1922	Low Conn. 1923	Total 1922	Total 1923
Third	907,291	1,886,900	198,920	1,459,750	1,106,211	3,346,650
Fourth	1,485,560	1,415,720	814,810	1,034,830	2,300,370	2,450,550
Totals.....	3,959,545	7,377,300	1,706,955	5,727,040	5,666,500	13,104,340

There was a gain of 8.5 in the percentage of the merchant production, it having been 31 in 1922 and 39.5 in 1923. There was a corresponding change but in a different direction in the furnace production, the 69 per cent in 1922 having declined to 60.5 per cent in 1923.

Merchant and Furnace Tonnage.

The production by the respective interests by quarters in 1922 and 1923 in short tons, is shown in the following tabulation:

Quarter	Merchant 1922	Merchant 1923	Furnace 1922	Furnace 1923	Total 1922	Total 1923
First	510,777	1,413,860	848,260	1,973,630	1,359,037	3,387,490
Second	218,453	1,542,910	682,429	2,376,740	900,882	3,919,650
Third	222,130	1,301,330	884,081	2,045,320	1,106,211	3,346,650
Fourth	809,530	927,740	1,490,850	1,522,810	2,300,370	2,450,550
Totals.....	1,760,880	5,185,840	3,905,620	7,918,500	5.666,500	13,104,340

Production by Months.

In the following table the monthly production from the two districts is given for the last two years, all in net tons:

	Merchant 1922	Merchant 1923	Furnace 1922	Furnace 1923	Total Tons 1922	Total Tons 1923
January	142,086	429,045	234,917	617,585	377,003	1,046,630
February	151,477	436,505	246,060	611,290	397,537	1,048,425
March	217,214	548,310	367,283	744,125	584,497	1,292,490
April	93,153	523,060	284,280	747,295	377,433	1,270,355
May	62,070	521,610	185,075	820,935	247,145	1,342,545
June	63,230	498,240	213,074	808,510	276,304	1,306,750
July	53,043	445,120	230,429	751,540	283,472	1,196,660
August	68,470	444,940	303,029	699,850	371,499	1,144,790
September	100,617	411,270	350,623	593,930	451,240	1,005,200
October	193,006	361,600	435,327	553,200	628,333	914,800
November	284,378	278,440	514,709	503,250	799,087	781,690
December	332,136	287,700	540,814	466,360	872,950	754,060
Totals	1,760,880	5,185,840	3,905,620	7,918,500	5,666,500	13,104,340
Increase over 1922		3,424,960		4,012,880		7,437,840
Per Cent Gain ...		194.4%		102.4%		131.2%
Aver. per Month.	146,723	432,153	325,468	659,875	472,108	1,092,028

Growth in Forty-three Years.

The progress of and the fluctuations in the coke trade of the Connellsville region during the past 43 years, or since it assumed importance as an industry, is comprehensively shown in the following tabulation. This gives the total number of available ovens at the close of each year, the annual output, the average price per ton and the gross value.

Year	Total Ovens	Tons Shipped	Average Price	Gross Revenue
1880	7,211	2,205,946	$1.79	$3,948,643
1885	10,471	3,096,012	1.22	3,777,134
1890	16,020	6,464,156	1.94	12,537,370
1895	17,947	8,244,438	1.23	10,140,658
1900	20,954	10,166,234	2.70	27,448,832
1905	30,842	17,896,526	2.26	40,446,149
1910	39,137	18,689,722	2.10	39,248,416
1915	38,986	17,921,216	1.80	32,258,188
1917	38,110	17,806,181	6.25	111,288,631
1918	37,061	16,138,590	7.25	117,004,777
1919	35,758	10,254,640	4.70	48,196,808
1920	35,678	10,750,227	8.30	89,226,884
1921	35,473	3,572,417	4.07	14,539,737
1922	35,042	5,675,000	7.15	40,576,250
1923	34,611	13,114,340	5.90	77,374,606

Connellsville Coke, Average Monthly Prices.

These monthly averages have been computed from the actual market as shown by transactions and reported in the Courier:

Prompt Foundry Coke.

Month	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
January	$1.88	$1.55	$3.14	$9.44	$6.00	$5.84	$6.00	$5.10	$2.85	$8.30
February	1.90	1.55	3.41	10.57	6.00	4.72	6.00	4.80	3.10	7.30
March	1.92	1.53	3.45	9.58	6.00	4.05	6.00	4.43	3.38	7.35
April	1.90	1.55	2.45	8.00	6.00	3.71	11.10	3.60	4.44	6.25
May	1.83	1.50	2.34	8.40	6.00	3.80	14.50	3.40	6.50	5.25
June	1.80	1.50	2.54	12.32	6.00	3.92	15.60	3.12	7.50	5.00
July	1.75	1.67	2.65	13.42	6.00	4.06	18.00	2.95	11.35	4.60
August	1.74	1.54	2.75	11.85	6.00	4.32	17.78	2.95	13.35	4.65
September	1.70	1.66	2.94	6.00	6.00	4.42	16.85	3.26	11.50	4.60
October	1.65	2.18	5.69	6.00	6.00	4.60	14.95	3.25	9.70	3.85
November	1.60	2.35	6.91	6.00	6.00	6.05	8.45	3.15	7.35	3.90
December	1.60	2.85	9.00	6.00	6.00	6.81	6.25	2.90	7.75	4.90
Average	1.77	1.79	3.94	9.40	6.00	4.69	11.80	3.58	7.40	5.41

Prompt Furnace Coke.

Month	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
January	$2.48	$2.10	$3.90	$10.93	$7.00	$6.85	$7.00	$6.75	$4.00	$9.25
February	2.47	2.15	4.00	12.10	7.00	5.54	7.00	6.15	4.15	8.50
March	2.46	2.13	3.85	11.90	7.00	4.75	7.00	5.63	4.50	8.60
April	2.43	2.13	3.75	10.12	7.00	4.63	13.10	5.15	5.21	7.80
May	2.40	2.15	3.56	9.90	7.00	4.65	14.00	5.10	6.75	6.50
June	2.40	2.20	3.35	11.70	7.00	4.75	16.00	4.67	7.85	5.85
July	2.30	2.25	3.30	13.42	7.00	5.08	19.00	4.20	11.70	5.60
August	2.30	2.28	3.30	14.25	7.00	6.64	19.15	4.20	15.00	5.55
September	2.25	2.42	3.45	12.55	7.00	6.16	18.25	4.34	13.25	5.90
October	2.20	2.62	5.35	7.00	7.00	6.24	17.25	4.40	11.90	5.30
November	2.10	3.10	9.16	7.00	7.00	7.05	10.60	4.17	8.70	5.25
December	2.05	3.50	10.35	7.00	7.00	7.28	7.75	4.00	8.15	5.25
Average	2.32	2.42	4.78	10.60	7.00	5.72	13.01	4.90	8.43	6.61

TRADE HISTORY OF 1923.

The Weyanoke Coal & Coke Co. and the S. J. Patterson Pocahontas Co. were consolidated, effective January 1st, the name of the Weyanoke company being retained.

Early in the new year the Youghiogheny & Ohio Coal Co., of Cleveland, purchased 7,000 acres of undeveloped coal land in eastern Ohio.

Announcement was made the first week in January that J. W. Searles, of New York, had been elected president of the Pennsylvania Coal & Coke Corporation, succeeding Thomas H. Watkins, resigned. At the same time it was announced that the company had acquired the holdings of the Watkins Coal Co. in Central Pennsylvania. Fairfax S. Landstreet was elected chairman of the board of directors of the Pennsylvania Coal & Coke Corporation.

In January, Harry N. Taylor was elected president of the United States Distributing Corporation, with headquarters in New York. He succeeded George F. Getz, who became chairman of the board. Mr. Taylor had previously been vice-president of the Central Coal & Coke Co., of Kansas City.

General George W. Goethals was appointed State Fuel Administrator by Governor Smith of New York on January 10th. He succeeded William H. Woodin. The office was abolished in the spring.

An agreement continuing the existing bituminous wage scale for one year from April 1, 1923, was signed in New York on January 24th by officials of the United Mine Workers of America and representatives of the operators of Illinois, Indiana and Ohio. This formed the basis for district agreements in other parts of the organized bituminous territory, with the result that 1924 came and went without any labor troubles in the soft coal fields except for an occasional local strike.

John M. Young, of Philadelphia, was appointed anthracite sales manager of Madeira, Hill & Co., in January, to fill the vacancy caused by the death of John Edmonds.

The merger of two Chicago wholesale houses was effected in February, when the Binkley Coal Co. took over the business of W. S. Bogle & Co., Inc. Walter S. Bogle, founder and president of the latter concern, died in May, 1922.

The Fordson Coal Co., incorporated in Delaware with authorized capitalization of $15,000,000, was organized by Henry Ford, of Detroit, as a step toward the centralization of his West Virginia and Kentucky mining properties into a single unit.

Two mine disasters occurred on February 8th. At the No. 1 mine of the Phelps-Dodge Corporation at Dawson, New Mexico, 120 men were killed, and almost simultaneously 33 miners lost their lives in one of the Dunsmuir operations at Cumberland, British Columbia.

The shortage of anthracite which followed the 1922 strike was aggravated by a severe cold wave in February, 1923. Coal trains were raided at various places, and at Saratoga Springs, N. Y., the city authorities seized two cars in the D. & H. yards and unloaded them at the plant of a local dealer for distribution to people who claimed they were in need of relief.

In New York State the retail dealers were required by the Fuel Administrator to deliver a proportion of anthracite substitutes when filling orders from consumers who bought more than a ton at a time. Substitutes were also used more or less extensively in other States, but only a small part of this business proved

to be permanent. Most people went back to hard coal when it was possible to get a normal supply.

T. B. Davis, of New York, and his former associates in the Pond Creek Coal Co., whose properties in eastern Kentucky were purchased by Henry Ford, acquired 2,500 acres of Pocahontas coal land and in February incorporated the Pond Creek Pocahontas Co. to develop the tract.

About March 1st Dwight C. Morgan resigned as president of the Pittsburgh & Shawmut Coal Co., and James R. Barnett resigned as vice-president and general sales agent. H. H. Gardner was elected president to succeed Mr. Morgan.

The French military occupation of the Ruhr Valley, which began in January, was followed by strikes of German miners in the affected area, which made it necessary for various European countries that had been using Ruhr coal to import an increased tonnage from Great Britain and America. An export boom in American coal started in February and culminated in March. While the buying movement lasted, several hundred thousand tons were sold for shipment to France, Holland, Germany and other Continental countries, but the demand did not continue long and 1923 lagged far behind 1920 as a year of heavy coal exports.

Announcement was made late in March that Henry Ford had added to his coal land holdings by the purchase of 120,000 acres of undeveloped property in eastern Kentucky. The tract centered in Clay County, but comprised parts of four surrounding countries.

As the first step in the retirement of Williams & Peters from the anthracite trade, arrangements were completed in March whereby the tonnage they formerly handled in the all-rail trade west of Buffalo was turned over to the Globe Coal Co., of Chicago.

In April five coal mining companies controlled by John H. Jones, of Pittsburgh, and associates were consolidated under the name of the Bertha-Consumers Co. Twenty mines, with a capacity of some 6,000,000 tons annually, were involved in the merger, together with approximately 40,000 acres of coal land in Pennsylvania, West Virginia, Ohio and Kentucky.

The Delaware & Hudson Co., one of the pioneers in the development of anthracite properties, celebrated its one-hundredth anniversary in April by taking a trainload of distinguished guests on an inspection trip to some of its collieries in the vicinity of Scranton. This followed a banquet in New York attended by upwards of 500 prominent men.

Around the first of May the Federal Trade Commission filed a formal complaint against the Northwestern Coal Dock Operators' Association, charging a conspiracy to suppress competition and create a monopoly in the distribution of coal in territory contiguous to the Head of the Lakes.

Two Philadelphia wholesale firms, J. G. Miller & Co. and Carson & Co., were consolidated under the name of Miller, Carson & Co., about May 1st.

Early in May, control of the Lyon & Billard Co., an old established coal and lumber firm of Meriden, Conn., was acquired by A. J. White, a local business man, for about $600,000.

Joseph J. Jermyn, of Scranton, Pa., sold his interest in the well-known anthracite firm of Jermyn & Co., to other members of his family and retired from active business.

In May, J. H. Sanford, of Pittsburgh, sold his interests in the Carnegie Coal Co. and subsidiary corporations to John H. Bell, president of the Colonial Trust

Co. of that city. The deal involved the transfer of mines in Washington and Allegheny counties, Pennsylvania, with an annual output of about 3,000,000 tons, as well as coal docks at the Head of the Lakes. Approximately $5,000,000 is said to have been involved in the transaction.

A consolidation of coal mining interests in Westmoreland County, Pennsylvania, was effected at Greensburg in May when the Irwin Gas Coal Co. absorbed the Amend Coal Co., the Salem Gas Coal Co. and the Ninevah Coal Co.

Joseph W. Simpson was elected president of the Milwaukee-Western Fuel Co., of Milwaukee, following the purchase of a controlling interest in that enterprise by the Pittsburgh Coal Co.

Richard Ellison was elected president of the C. G. Blake Co., of Cincinnati, in May, to succeed the late C. G. Blake.

Early in the summer the Blanchard Moshannon Mining Co., controlled by the Blanchard interests of Pittsburgh, began the development of a large stripping operation in the Central Pennsylvania region, the first important undertaking of its kind in that part of the State.

At the annual meeting of the National Coal Association, held at Atlantic City in June, John C. Brydon, of Somerset, Pa., was elected president.

In June, announcement was made that the Carolina, Clinchfield & Ohio Railway, which is almost exclusively a coal-carrying road, had been leased to the Atlantic Coast Line and the Louisville & Nashville Railroads.

Rinaldo Cappellini, who was reputed to be a radical of the fire-eating type, was elected president of District No. 1, United Mine Workers, in June. This district embraces the northern anthracite region. It was feared that Mr. Cappellini's election would be the signal for a new outbreak of local strikes, such as he was charged with having instigated while head of one of the locals in the hard coal region. But he surprised everybody by adopting a peaceable policy, and since taking office has repeatedly used his influence to prevent the miners from going on unauthorized strikes over petty grievances.

The Interstate Commerce Commission issued an order in June directing the railroads to discontinue the practice of assigning cars for locomotive coal, and to treat privately owned cars like system cars when it came to making an equitable distribution of equipment among mines in times of car shortage. September 1st was the effective date originally set for this order, but so many protests were received that various postponements were made and it had not gone into effect at the end of the year.

Around the first of July two important Alabama mining interests, the De Bardeleben Coal Co. and the Corona Coal Co., were merged under the name of the De Bardeleben Coal Corporation. A subsidiary, W. G. Coyle & Co., Inc., of New Orleans, was included in the combination.

Early in July the Hudson Coal Co. sold its Langcliffe colliery, near Scranton, to the recently organized Suffolk Anthracite Collieries Co., of which J. E. Crass, Jr., of Scranton, was president.

In July the coal miners of Nova Scotia went on strike in defiance of President Lewis of the United Mine Workers, who thereupon revoked their charter, removed their officers and put new men in charge of the union's affairs in the Province.

The Interstate Commerce Commission during the summer began investigating the reasonableness of anthracite freight rates, and later extended the scope of inquiry to include the rates on bituminous coal suitable for domestic use in the

eastern territory. Hearings were held at intervals throughout the rest of the year and were continued into 1924.

The first cargo of Welsh anthracite to be imported into the United States in 1923 arrived at New Haven in July. It was consigned to a retail dealer at Portland, Conn. Later in the year shipments were made to Boston and one cargo came to New York. Scarcity of Pennsylvania anthracite and the high prices charged by independent operators made the importation of this fuel commercially possible.

Action of the Interstate Commerce Commission in refusing to allow the Virginian Railway to build a short extension to reach a new coal mine in southern West Virginia, on the ground that there were already as many mines in operation on that road as the car supply warranted, met with wide criticism. It was contended by many that the Commission was not clothed with authority to regulate the development of the bituminous industry. Later that body reversed its action and permitted the line to be built.

An important deal in the smokeless fields was the purchase of the mining properties of the New River Collieries Co. near Eccles, W. Va., by the Stonega Coke & Coal Co., controlled by the Wentz interests.

Charles S. Goldborough was elected president of the Pennsylvania Coal Co. and the Hillside Coal & Iron Co., of Scranton, to succeed the late William A. May.

An explosion on August 14th in the Frontier No. 1 mine of the Kemmerer Coal Co. at Kemmerer, Wyo., caused the loss of 101 lives.

C. Bascom Slemp, prominently identified with coal affairs in southwestern Virginia and the adjacent sections of Kentucky and Tennessee, was appointed secretary to President Coolidge in August.

Announcement was made about the middle of August by Pattison & Bowns, Inc., of New York, that they had negotiated a contract for the purchase over a period of years from April 1, 1924, of the entire tonnage of Pittston anthracite produced by the Pennsylvania Coal Co. and the Hillside Coal & Iron Co., to be sold commercially in Canada and the territory east of the western boundary of Pennsylvania. This coal had been handled for many years by the firm of Williams & Peters, which retired from active business on September 1st, having made arrangements with Pattison & Bowns to take over their sales contract with the Erie interests, which ran until April 1, 1924.

The anthracite miners went on a general strike September 1st, following the expiration of their wage contract. Negotiations had been under way with the operators since early in the summer, but the two sides were unable to agree. The demands included a 20 per cent wage increase and the adoption of the check-off system for collecting union dues. When it was seen that a strike was inevitable, Governor Pinchot of Pennsylvania took a hand, and on September 8th secured the signing of a new two-year contract under which the mine workers were granted a raise of 10 per cent. Work was resumed on September 19th, so that the collieries were idle for a little less than three weeks. The Governor's suggestion that the wage increase should be absorbed by the coal trade and the railroads was not well received, and the higher costs were passed on to the public in the form of price advances ranging from 70 to 90 cents a ton at the mines in the case of the large producers.

In September, the United States Coal Commission, appointed in 1922 by President Harding to investigate the anthracite and bituminous industries, began

making public its final series of reports. These covered various phases and branches of the coal trade. They contained a vast array of data and made numerous suggestions for improving conditions, but like all reports of this kind they were quickly forgotten. Nothing of a practical nature has come from them, and the chances are that nothing will.

O. W. Gardner, of Cincinnati, retired as president of the Chesapeake & Virginian Coal Co. in October and was succeeded by Clinton DeWitt.

The Westmoreland Coal Co. prepared to extend its operations into West Virginia by acquiring 5,518 acres of land in the Little Coal River field, with a view to early development.

In October, officials of an independent anthracite mining company and five wholesale firms of New York and Boston were summoned to appear before the Federal Trade Commission in Washington on November 19th, to answer to charges of engaging in a conspiracy to raise the price of hard coal. This action was the result of an order by President Coolidge, following the strike, to investigate anthracite prices and profits. The hearing was duly held, but the Commission was unable to substantiate its charges and the complaint was dismissed.

J. B. Clifton, of Beckley, W. Va., was elected president of the Atlantic Smokeless Coal Co. in October, succeeding George Wolfe.

Twenty-seven men were killed on November 6th by an explosion in the Raleigh Wyoming Coal Co.'s mine at Glen Rogers, W. Va.

Francis R. Wadleigh resigned as chief of the Coal Division of the Department of Commerce in November to re-enter the coal trade as vice-president of the Tuttle Coal Corporation of New York.

Throughout 1923 reports came to hand of householders in considerable numbers equipping their furnaces to burn oil instead of coal, while the oil people also continued to make some headway in displacing bituminous as an industrial fuel. However, the advancing price of oil, and unsatisfactory results obtained in many cases, especially in private residences, began to have their effect toward the end of the year. It was believed that the worst stage of oil competition had been passed.

In November came a report from the Pocahontas region that the Pocahontas Fuel Co. had purchased the Faraday tract of coal land from the estate of H. C. Frick at a price of approximately $500 an acre. This consisted of some 30,000 acres, containing the original Pocahontas No. 3 seam and located partly in Virginia and partly in West Virginia. It was the largest undeveloped parcel of that coal not already in the hands of mining interests.

Late in November, R. B. Mellon, president of the Mellon National Bank, Pittsburgh, was elected chairman of the board of directors of the Pittsburgh Coal Co., to succeed the late M. H. Taylor.

On December 1st, J. Noble Snider resigned as coal traffic manager of the New York Central Railroad Co. to become associated with the Rochester & Pittsburgh Coal & Iron Co. as vice-president in charge of sales, with office in New York.

When Congress convened early in December it was predicted that the coal trade would come in for a lot of unwelcome attention at the hands of the lawmakers. As a matter of fact, quite a number of bills providing for some measure of Government supervision were introduced, but none of them was pushed. Once

the oil scandal had developed into full flower, proposed coal legislation was forgotten for the time being.

Shipments of bituminous coal up the Great Lakes in 1923 were the heaviest on record, surpassing even the big year of 1920. The weather was mild in December and the movement continued, though of course on a greatly reduced scale, until well up toward the end of the month.

In December the anthracite operators opened a Coal Economy Show in Philadelphia, as part of a campaign to popularize buckwheat as a domestic fuel. It consisted of an exhibit of equipment, supplemented by motion pictures, printed matter and oral explanations. Similar shows were later opened in other cities.

December, 1923, was notable as being the warmest December on record, at least in New York and vicinity. The mean temperature of 42 degrees was seven degress above normal. One result of this unseasonable mildness was a rapid let-up in the demand for anthracite and a steady decline in the price of independent tonnage.

BEYOND OUR PALE

A Large and Prosperous Region Contributes Nothing to Coal Trade.

In consideration of the state of the coal trade in the Eastern or Middle Western States in comparison with the reports of the conditions of general business in the country at large, it may be in order to point out that a considerable number of the larger cities in the country are now located outside and in some cases far beyond the boundaries of the area in which the coal men of the familiar trade territory are concerned.

Recent census figures show the following cities of more than 100,000 inhabitants which are located in the South, the West or on the Pacific Coast. None of them have close relations with the coal trade of the East or the Middle West, and some of them are not coal trade factors, even so far as local coal interests are concerned, being so situated geographically as to require little if any coal for heating and using oil for steam-raising as well as other purposes. In all there are 17 of these cities:

Los Angeles	Portland, Ore.	Birmingham	Houston
San Francisco	Denver	Memphis	Nashville
New Orleans	Oakland	San Antonio	Salt Lake City
Seattle	Atlanta	Dallas	Fort Worth
			Spokane

Some of these are among the fastest growing communities in the United States.

The question is asked, "Does each ton of coal burned make a lighter globe?" A coal man wants to know to what extent the weight of the earth has been decreased by the removal each year of the immense tonnage of coal that is mined and burned. One person to whom this question was submitted said there was no effect; that it is not possible to destroy anything in nature though we may change its form. The coal that is extracted from the earth remains with us, either in the form of ashes or gases so that the net result is that the globe weighs as much as it did before.

Deaths in 1923.

Thomas J. Nash, retail dealer, Washington, D. C., January 12th.

N. A. Painter, of the N. A. Painter Coal Co., Winchester, Ky., January 13th.

Herbert H. Ashley, veteran anthracite operator, Wilkes-Barre, January 20th.

Henry M. Whitney, retired Nova Scotia coal operator, Boston, January 25th.

J. E. Haverstick, Philadelphia wholesaler, died in January.

George Winterhalt, retail dealer at Preston, Ont., January 26th.

William C. Goodnow, of the W. C. Goodnow Coal Co., Minneapolis, January 28th.

Wellington Bertolet, retired retailer of Reading, Pa., January 29th.

George Z. Hosack, treasurer of the Berger-Aiken Coal Co., Pittsburgh, died in February.

A. C. Lackey, president of the Dixie Fuel Co., Nashville, Tenn.

Charles K. Wagner, eastern Kentucky operator, died at Huntington, W. Va., in February.

Frank B. Gregory, retailer dealer of Collingwood, Ont., February 24th.

William H. Ziegler, of former New York wholesale coal firm of Barber & Ziegler, February 26th.

Henry E. Patrick, vice-president of C. M. Moderwell & Co., Chicago, February 28th.

Ora Darnall, of the Bolen-Darnall Coal Co., Kansas City, died in March.

Matthew H. Taylor, chairman of the Pittsburgh Coal Co., March 8th.

James Pierpoint, president of Jas. Pierpoint & Sons Co., Philadelphia, March 10th.

Robert H. Gruschow, president of the Gruschow-McCabe Coal Co., Chicago, died in March.

Henry Hencken, retail dealer of New York City, March 17th.

Calvin Pardee, independent anthracite operator, Philadelphia, March 18th.

W. G. Harper, president of the Harper Coal Co., Meadville, Pa., March 20th.

Albert J. Field, secretary-treasurer, Bacon & Robinson Co., Bangor, Me., March 28th.

Henry V. Donaldson, former official of the Peabody Coal Co. of Chicago, died in March.

Frederic A. Potts, of F. A. Potts & Co., New York wholesalers, March 24th.

William H. Kid, formerly with Whitney & Kemmerer, New York, March 31st.

Alexander Dick, of Montreal, general sales agent, Dominion Coal Co., April 12th.

C. P. Mohrfield, retail dealer of Collingswood, N. J., April 14th.

John P. Cameron, western Pennsylvania coal operator, Pittsburgh, April 22nd.

Dudley D. Britt, West Virginia coal operator, Clarksburg, April 23rd.

Richard H. Williams, senior member of Williams & Peters, New York, April 28th.

Frank P. Miller, president of the Peerless Mining Co., Philadelphia, died late in April.

Charles D. Huff, agent of the Philadelphia & Reading Coal & Iron Co., at Detroit, May 11th.

Francis Reeves, retail dealer of Millville, N. J., died in May.

Delos Hull, formerly a coal dealer at Oak Park, Ill., died in May.

John Lucas, retail dealer of Toronto, May 15th.

John A. Renahan, formerly vice-president of the Smokeless Fuel Co., died at Greenwich, Conn., May 25th.

Capt. W. A. May, president of the Pennsylvania Coal Co. and the Hillside Coal & Iron Co., Scranton, Pa., June 1st.

Samuel Hines, retired anthracite operator, Scranton, June 4th.

William Bryant, retired retail coal dealer of Philadelphia, died early in June.

John J. Tierney, pioneer operator in the Pocahontas region, Philadelphia, June 11th.

George Spottiswoode, retailer of Orange, N. J., June 12th.

Stewart C. Gailey, assistant to president of Pittsburgh Coal Co., died in June.

H. M. Matthews, coal traffic manager, Baltimore & Ohio Railroad, Aberdeen, Md., July 10th.

Benjamin D. Taylor, retail coal dealer, Olean, N. Y., July 21st.

John M. Maher, treasurer of the Blaine Mining Co., New York, July 23rd.

Alexander Y. Malcolmson, wholesale and retail dealer of Detroit, August 1st.

Claude R. Wilson, president of the International Fuel & Iron Co., Pittsburgh, July 28th.

William J. Maher, general manager of the Maher Collieries Co., Cleveland, was fatally injured by a gas explosion while inspecting a mine.

Charles C. Beury, president of the Beechwood Coal & Coke Co., died at Lewisburg, W. Va., early in August.

William B. Martin, retail dealer of Rockville, Conn., August 3rd.

Delmont J. Kennedy, president of the Bulger Block Coal Co., Pittsburgh, August 5th.

Louis H. Spier, identified with the Stephens Fuel Co., of New York, August 12th.

Joseph Swain, senior member of the Philadelphia firm of Swain Bros., died August 12th while on a visit to Scotland.

David Taylor, well-known to the coal trade through his position as vice-president of the Coal & Iron National Bank of New York, August 22nd.

Clinton L. Poston, pioneer operator in the Hocking field, Athens, Ohio, August 23rd.

Simon H. Weaver, president of the Nanette Coal & Coke Co., Syracuse, N. Y., August 29th.

Victor White, western manager of the Flat-Top Fuel Co., Cincinnati, August 24th.

William Mensching, veteran retailer of Chicago, September 3rd.

George H. Bayne, well-known consulting engineer of New York, died in September.

William J. Borden, New York manager of the Cortright Coal Co., September 15th.

J. M. Moore, president of the Right Fork Mining Co., Huntington, W. Va., September 18th.

J. L. Mitchell, veteran Illinois coal operator, died at Chicago in September.

William A. Mehaffey, Boston wholesaler, September 23rd.

Fred Horne, of the Horne Coal Co., Lowell, Mass, died in September.

Harrison Van Winkle, who had been identified with the New York wholesale trade, died September 23rd.

Kuper Hood, vice-president of the Houston Coal Co., Cincinnati, September 28th.

L. R. Schenck, agent of the Delaware, Lackawanna & Western Coal Co., Toledo, October 4th.

A. Brooks Fleming, pioneer operator in the Fairmont region and ex-Governor of West Virginia, Fairmont, October 13th.

Frederick Rheinfrank, vice-president of the Stokes Coal Co., New York, October 14th.

John A. Clarke, veteran northern West Virginia operator, Fairmont, October 19th.

Jacob L. Brady, president of the Brady-Tucker Coal Co., Cincinnati, October 22nd.

Michael P. Maloney, retail dealer of Niagara Falls, N. Y., October 27th.

John H. M. Claggett, resident manager at Chicago of the Philadelphia & Reading Coal & Iron Co., November 11th.

Thomas Thedford, a retired retail dealer of New York, November 13th.

Edward H. Jennings, vice-president of the Bessemer Coke Co., Pittsburgh, died in November.

C. W. Kinsey, president of the Fairlie & Wilson Coal Co., Newark, N. J., died in November.

J. H. Wily, sales agent of the Philadelphia & Reading Coal & Iron Co. at Reading, Pa., November 24th.

Thomas K. Jenkins, general manager of the Emmons Coal Mining Co., Philadelphia, December 2nd.

William F. Quinlan, president of the Edgewater Coal Co., Chicago, December 10th.

William L. Connell, independent anthracite operator, Scranton, Pa., December 10th.

Samuel W. White, coal operator of What Cheer, Iowa, December 10th.

Henry S. Hastings, head of the Shawmut coal and railroad interests in western Pennsylvania, December 13th.

Julian B. Huff, president of the Keystone Coal & Coke Co., Philadelphia, December 21st.

Charles A. Tribbey, former president of the Tribbey Coal Co., Cincinnati, December 20th.

British Oil for Bunkers.

The following gives a comparative record of the quantities of fuel oil supplied in 1923, for bunkering purposes at British ports:

Month	Gallons	Approximate Coal equivalent Tons	Month	Gallons	Approximate Coal equivalent Tons
January	16,421,288	111,708	July	20,801,560	141,506
February	15,595,402	106,090	August	21,372,289	145,290
March	15,127,233	102,888	September	14,869,615	101,153
April	18,426,513	125,350	October	21,270,997	144,700
May	20,182,361	137,295	November	21,400,800	145,583
June	19,152,194	130,286	December	17,226,761	117,188

COST OF STORING SOFT COAL

Expense Varies from 50 Cents to $1.50 a Ton, Commission Finds.

In its report on coal storage, the U. S. Coal Commission says:

The cost of storage is an indefinite figure. Hundreds of firms storing coal were interviewed and their records examined, but it is found to be difficult, if not impossible, to give even rough general figures on the cost of storing coal.

Two neighboring plants may each store 3,000 tons. One plant with hand-fired boilers has a trestle bunker adjacent to the boiler house where this tonnage can be dumped at an additional labor cost of, say, five cents a ton for trimming. The bunker is used for the ordinary "car to boiler" operation, and the handling of this additional tonnage does not add to the interest or maintenance charges on the equipment.

When reclaiming from this storage the fireman wheels the coal as he would ordinarily, so that reclaiming represents a little extra labor to him, but no additional operating expense. The only items which can properly be charged to storage here are labor cost of trimming, interest on investment (coal and freight), say, 25 cents, and deterioration and shrinkage, say, 25 cents, a total of 55 cents.

The adjoining plant is equipped with overhead bunkers, with capacity for a week, receiving the coal by elevator from a track hopper. Here the existing equipment cannot be utilized for storage, additional mechanical equipment must be installed or the coal handled by hand labor into and out of storage. In this case the labor charge may run from five or ten cents per ton, with mechanical equipment in and out of storage, to fifty cents or a dollar per ton with hand labor.

Considering interest and maintenance of the extra mechanical equipment, interest on the coal, cost including freight, and deterioration and shrinkage of coal, the costs range from 50 cents to 75 cents for large storage, 50,000 tons or more, to $1.00 to $1.50 per ton for small storages of a few hundred to a thousand tons. These costs are on the quantity of coal actually stored.. Spread over the total tonnage used in a year, and figured as cost per ton for all coal used, the figure is much less. This is the fair basis for calculating the cost of storage.

Editorial Note.—In the above the Commission refers to expense of storing soft coal. There is a greater expense relative to handling hard coal because of the breakage which causes degradation, reducing a proportion of the prepared sizes to steam sizes. Furthermore, is the fact that if a storage of hard coal is to be of real value, facilities must be provided for getting it out quickly. It can be stored gradually during the quiet season but when the demand arises it must be available for prompt delivery if it is to serve its purpose. Hence, a mechanical plant of considerable capacity is required to make the tonnage available.

The Niagara Falls Power Co. states that it is the greatest producer of electric power in the world, exceeding the Canadian Hydro Co. by nearly half and selling the power at a lower rate. The increase is shown by noting that in 1922 Syracuse received less than 7,500,000 kilowatt hours, while in 1923 the amount would be more than 200,000,000. It figures the unit it lately put in as equivalent to 700,000 tons of coal a year. Two more will be put in soon.

Coal Traffic at St. Louis, Mo.

The coal supply of St. Louis is derived almost entirely from mines within a short distance of that city, and is received via the railroads which traverse the southern part of Illinois. Although Missouri is a State of important coal production, none of its tonnage is shipped to the largest city in that State. In fact, St. Louis occupies a unique position of isolation so far as the meeting of its coal requirements is concerned, and probably no other large city obtains its coal at such small expense for freight.

Receipts of coal by the several lines of railroads, etc., are thus given by the secretary of the Merchants' Exchange:

Route	1919	1920	1921	1922	1923
Missouri Pacific RR.....	205,794	234,395	125,789	121,856	188,277
Balt. & Ohio S. W. RR.....	948,235	782,336	543,254	514,436	1,059,907
C., C., C. & St. Louis Ry...	105,273	143,277	187,279	146,324	161,119
P., C., C. & St. L. RR.....	481,872	631,097	656,648	556,140	582,870
Illinois Central RR.....	927,234	959,526	1,940,530	2,194,932	2,886,610
Wabash Ry.	86,004	257,664	172,945	199,710	155,625
Louisville & Nashville RR..	1,020,271	1,013,862	894,147	1,085,699	746,279
Southern Ry.	759,859	508,357	360,522	362,068	425,257
Mobile & Ohio RR.....	523,700	808,000	442,850	302,750	319,900
Tol., St. L. & Western RR..	169,453	35,160	8,356	27,810	58,019
St. Louis & O'Fallon RR...	541,378	1,131,488	791,494	758,048	717,076
St.L.,I.M. & S. Ry. (Ill. Div.)	638,607	720,227	503,554	508,192	1,593,400
St. L., Troy & Eastern Ry..	463,390	998,032	648,869	503,463	401,679
St. L. & Belleville Elec. Ry.	311,640	493,087	326,939	385,012	426,273
Chicago & Eastern Ill., RR.	48,721	20,425	23,245	22,321	72,200
St. Louis-San Francisco Ry.	86,896	113,239	66,766	64,455	82,501
C., B. & Q. RR. (East)....	671,030	318,525	1,228,650	1,009,350	1,494,740
C., B. & Q. RR. (West)...	3,750	66,840	235,760	194,800	299,750
C., P. & St. Louis RR.....	950	600	.....	.....	.....
Litchfield & Madison Ry...	626,877	958,726	453,730	550,440	683,860
East St. L. & Sub. RR.....	481,264	896,836	421,782	401,738	341,878
Illinois Traction System...	400,790	401,240	299,600	299,450	396,800
C. & A. (Ill. Div.).....	.....	.....	.....	11,135	18,181
C. & A. (Mo. Div.).....	.....	.....	.....	882	62
Total tons.....	9,503,438	11,492,939	10,332,739	10,221,011	13,112,263

Receipts of Anthracite Included in Above.

Receipts of anthracite coal during past 15 years were:

Year	Tons	Year	Tons	Year	Tons
1909	236,040	1914	174,694	1919	114,918
1910	289,463	1915	189,478	1920	155,991
1911	487,030	1916	172,832	1921	111,038
1912	277,683	1917	163,789	1922	60,813
1913	274,423	1918	64,515	1923	70,817

Of the anthracite receipts part was "shipped through," or 12,338 tons in 1923 as compared with 14,721 tons in 1922.

ROBINSON, HAYDON & CO.

ESTABLISHED 1874

143 LIBERTY ST. NEW YORK

ANTHRACITE and BITUMINOUS

COAL

STEAM SIZES A SPECIALTY

SAWARD'S JOURNAL

covers completely the coal trade east of the Mississippi. No better medium for reaching enterprising retailers and large consumers in seaboard territory is to be found. Saward's Journal goes directly to leading interests and its advertising pages show that it enjoys the patronage of many of the largest and best known producers and middle houses.

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A. W. HILLEBRAND CO.

High Grade Low Volatile

Soft Coal

1 BROADWAY NEW YORK

Receipts of Coke.

Year	Tons	Year	Tons	Year	Tons
1909	171,570	1914	139,296	1919	97,809
1910	191,190	1915	121,389	1920	128,701
1911	192,245	1916	215,025	1921	167,950
1912	190,370	1917	217,236	1922	293,175
1913	190,857	1918	168,205	1923	322,220

Production of Central Competitive Field and Its Relation to Total Bituminous Production of the Country.

We give below figures showing importance of the Central Competitive Coal Field by tonnage and percentages of the aggregate soft coal output of the United States. It will no doubt be interesting to note how well this field has maintained its position as a producer of almost one-third of the coal output of the country throughout a quarter century.

Year	Illinois	Indiana	Ohio	Western* Pennsylvania	Total Central Competitive	Per Cent of Total for U. S.	Per Cent by Five-Year Periods
1898	18,599,000	4,921,000	14,517,000	15,349,000	53,386,000	32.0	32.5
1899	24,439,000	6,007,000	16,500,000	17,157,000	64,103,000	32.2	
1900	25,768,000	6,484,000	18,988,000	17,421,000	68,661,000	32.3	
1901	27,332,000	6,918,000	20,944,000	9,967,000	65,161,000	28.9	33.2
1902	32,939,000	9,446,000	23,520,000	24,267,000	90,172,000	34.7	
1903	36,957,000	10,795,000	24,838,000	25,593,000	98,183,000	34.7	
1904	36,475,000	10,842,000	24,400,000	24,556,000	96,273,000	34.5	
1905	38,434,000	11,895,000	25,553,000	28,378,000	104,260,000	33.1	
1906	41,480,000	12,093,000	27,732,000	34,098,000	115,403,000	33.7	34.1
1907	51,317,000	13,986,000	32,142,000	38,471,000	135,916,000	34.4	
1908	47,660,000	12,315,000	26,271,000	30,871,000	117,117,000	35.2	
1909	50,905,000	14,834,000	27,940,000	33,960,000	127,639,000	33.6	
1910	45,900,000	18,390,000	34,210,000	40,988,000	139,488,000	33.4	
1911	53,679,000	14,201,000	30,760,000	39,117,000	137,757,000	33.9	32.8
1912	59,885,000	15,286,000	34,529,000	41,787,000	151,487,000	33.7	
1913	61,619,000	17,166,000	36,201,000	46,267,000	161,253,000	33.7	
1914	57,589,000	16,641,000	18,843,000	39,098,000	132,171,000	31.3	
1915	58,830,000	17,006,000	22,435,000	40,974,000	139,245,000	31.5	
1916	66,195,000	20,094,000	34,728,000	43,188,000	164,205,000	32.7	35.7
1917	86,199,000	26,539,000	40,749,000	47,816,000	201,303,000	36.5	
1918	89,291,000	30,679,000	45,813,000	50,558,000	216,341,000	37.3	
1919	60,863,000	20,912,000	35,877,000	42,350,000	160,002,000	34.3	
1920	88,631,000	29,091,000	45,276,000	49,824,000	212,822,000	37.8	

*Western Pennsylvania includes the following counties. Allegheny, Armstrong, Beaver, Butler, Greene, Lawrence, Mercer and Washington. Statistics taken from annual report of the United States Geological Survey.

Coal Discovery in Southwest Africa.

The discovery of coal at Stamprietfontein, about 45 miles from Marienthal in the mandate territory of southwest Africa, has been reported. The seam is said to be 14 feet thick, and was discovered at a depth of 143 feet in one of the Government bore holes. It has been traced for 4 or 5 kilometers, but the exact area of the coal field is uncertain. Some doubt seems to prevail as to the successful development of any coal discovered in southwest Africa, the chief difficulties being those of transport and the question of labor, as the local natives (negroes) are very averse to working underground.

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Royster Building, Norfolk, Va.
Knickerbocker Building, Johnstown, Pa.

European Agents: A. R. Miles & Co., Ltd., Winchester House, London, E. C. 2

ALDEN COAL MINING COMPANY

INCORPORATED

Bituminous and Anthracite Coal

COAL A M COKE

Foundry and Furnace Coke

GENERAL OFFICE
1 BROADWAY, NEW YORK

Anthracite Coal Shipments Yearly Since Outset.

Year	Tons	Year	Tons	Year	Tons	Year	Tons
1820	365	1846	2,344,005	1872	19,669,778	1898	41,899,751
1821	1,073	1847	2,882,309	1873	21,227,952	1899	47,665,204
1822	3,720	1848	3,089,238	1874	20,145,121	1900	45,107,484
1823	6,951	1849	3,242,966	1875	19,712,472	1901	53,568,601
1824	11,108	1850	3,358,899	1876	18,501,011	1902	31,200,890
1825	34,893	1851	4,448,916	1877	20,828,179	1903	59,362,831
1826	48,047	1852	4,993,471	1878	17,605,262	1904	57,492,522
1827	63,434	1853	5,195,151	1879	26,142,689	1905	61,410,201
1828	77,516	1854	6,002,334	1880	23,437,242	1906	55,698,595
1829	112,083	1855	6,608,567	1881	28,500,017	1907	67,109,393
1830	174,734	1856	6,927,580	1882	29,120,096	1908	64,665,014
1831	176,820	1857	6,644,941	1883	31,793,027	1909	61,969,885
1832	363,271	1858	6,839,369	1884	30,718,293	1910	64,905,786
1833	487,749	1859	7,808,255	1885	31,623,530	1911	69,954,299
1834	376,636	1860	8,513,123	1886	32,136,362	1912	63,610,578
1835	560,758	1861	7,954,264	1887	34,641,018	1913	69,069,628
1836	684,117	1862	7,869,407	1888	38,145,718	1914	68,342,601
1837	869,441	1863	9,566,006	1889	35,817,093	1915	67,883,776
1838	738,697	1864	10,177,475	1890	36,615,459	1916	67,376,364
1839	818,402	1865	9,652,391	1891	40,448,336	1917	77,133,305
1840	864,379	1866	12,703,882	1892	41,893,340	1918	76,649,918
1841	959,773	1867	12,988,725	1893	43,089,537	1919	66,855,462
1842	1,108,412	1868	13,801,465	1894	41,391,200	1920	68,915,460
1843	1,263,598	1869	13,866,180	1895	46,511,477	1921	67,617,713
1844	1,630,850	1870	16,182,191	1896	43,177,485	1922	40,815,777
1845	2,013,013	1871	15,699,721	1897	41,637,864	1923	72,668,621

Anthracite used at the mines and breakers for steam and heat represents more than 10 per cent of the total output and is not included above.

Headquarters of Pennsylvania Mine Inspectors.

In connection with the district tonnages of Pennsylvania, it might be well to state the places at which the mine inspectors make their headquarters, as this will give an idea as to the location of the various districts.

Joseph Walsh, Chief Department of Mines, Harrisburg.

Anthracite: 1st, Forest City; 2d, Carbondale; 3d, 4th, 5th and 6th, Scranton; 7th, Taylor; 8th, Pittston; 9th, West Pittston; 10th and 11th, Kingston; 12th and 13th, Wilkes-Barre; 14th, Nanticoke; 15th and 16th, Hazleton; 17th, Lansford; 18th, Coaldale; 19th, Pottsville; 20th, Mahanoy City; 21st, Shenandoah; 22d, Centralia; 23d, Mount Carmel; 24th, Shamokin; 25th, Lykens.

Bituminous: 1st, Monongahela; 2d, Latrobe; 3d, Mercer; 4th, Du Bois; 5th, Uniontown; 6th, Johnstown; 7th, Crafton; 8th, Philipsburg; 9th, Connellsville; 10th, Altoona; 11th, Greensburg; 12th, Punxsutawney; 13th, Johnstown; 14th, Freeport; 15th, Patton; 16th, Brownsville; 17th, Pittsburgh; 18th, Tyrone; 19th, Irwin; 20th, Somerset; 21st, Charleroi; 22d, Dravosburg; 23d, Masontown; 24th, Johnstown; 25th, Indiana; 26th, Bridgeville; 27th, Belle Vernon; 28th, Punxsutawney; 29th, Pittsburgh; 30th, Johnstown.

THORNE, NEALE & CO., INC.

Franklin Bank Building Philadelphia, Penna.

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Locust Run
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United States Bituminous Production, Yearly Since Outset.

1807-1820	3,000	1846 ...	1,977,707	1872 ...	27,220,233	1898 ...	166,593,623
1821 ...	.....	1847 ...	1,735,062	1873 ...	31,449,643	1899 ...	193,323,187
1822 ...	54,000	1848 ...	1,968,032	1874 ...	27,787,130	1900 ...	212,316,112
1823 ...	60,000	1849 ...	2,453,497	1875 ...	29,862,554	1901 ...	225,828,149
1824 ...	67,040	1850 ...	2,880,017	1876 ...	30,486,755	1902 ...	260,216,844
1825 ...	75,000	1851 ...	3,253,460	1877 ...	34,841,444	1903 ...	282,749,348
1826 ...	88,720	1852 ...	3,664,707	1878 ...	36,245,918	1904 ...	278,659,689
1827 ...	94,000	1853 ...	4,169,862	1879 ...	37,898,006	1905 ...	315,062,785
1828 ...	100,408	1854 ...	4,582,227	1880 ...	42,831,758	1906 ...	342,874,867
1829 ...	102,000	1855 ...	4,784,919	1881 ...	53,961,012	1907 ...	394,759,112
1830 ...	104,800	1856 ...	5,012,146	1882 ...	68,429,933	1908 ...	332,573,944
1831 ...	120,100	1857 ...	5,153,622	1883 ...	77,250,680	1909 ...	379,744,257
1832 ...	146,500	1858 ...	5,548,376	1884 ...	82,998,704	1910 ...	417,111,142
1833 ...	133,750	1859 ...	6,013,404	1885 ...	72,824,321	1911 ...	405,907,059
1834 ...	136,500	1860 ...	6,494,200	1886 ...	74,644,981	1912 ...	450,104,982
1835 ...	134,000	1861 ...	6,688,358	1887 ...	88,562,314	1913 ...	478,435,297
1836 ...	142,000	1862 ...	7,790,725	1888 ...	102,040,093	1914 ...	422,703,970
1837 ...	182,500	1863 ...	9,533,742	1889 ...	95,682,543	1915 ...	442,624,426
1838 ...	445,452	1864 ...	11,066,474	1890 ...	111,302,322	1916 ...	502,519,682
1839 ...	552,038	1865 ...	11,900,427	1891 ...	117,901,238	1917 ...	551,790,563
1840 ...	1,102,931	1866 ...	13,352,400	1892 ...	126,856,567	1918 ...	579,385,820
1841 ...	1,108,700	1867 ...	14,722,313	1893 ...	128,385,231	1919 ...	465,860,058
1842 ...	1,244,494	1868 ...	15,858,555	1894 ...	118,820,405	1920 ...	568,666,683
1843 ...	1,504,121	1869 ...	15,821,226	1895 ...	135,118,193	1921 ...	415,921,950
1844 ...	1,672,045	1870 ...	17,371,305	1896 ...	137,640,276	1922 ...	422,268,099
1845 ...	1,829,872	1871 ...	27,543,023	1897 ...	147,617,519	1923 ...	545,400,000

West Virginia Mine Districts.

The complete list of West Virginia inspectors, district to which assigned and post office address is:

Chief, Department of Mines, R. M. Lambie, Charleston, W. Va.

District	Inspector	Post Office
1st,	C. W. Stuart	Thomas
2nd,	W. H. Sandridge	Grafton
3rd,	Evan L. Griffiths	Clarksburg
4th,	William Moore	Morgantown
5th,	W. B. Riggleman	Fairmont
6th,	A. E. Lafferty	Moundsville
7th,	Thomas Jarrett	Weston
8th,	V. E. Sullivan	Charleston
9th,	Eli J. Mason	Charleston
10th,	Zach Evans	Handley
11th,	John E. Hamilton	Eskdale
12th,	J. A. Porter	Gauley Bridge
13th,	Robert R. Fields	Hinton
14th,	Robert Lilly	Mount Hope
15th,	W. L. McGinnis	Beckley
16th,	C. C. Rumburg	Matoaka
17th,	Thomas Stockdale	Freeman
18th,	W. D. Lee	Maitland
19th,	W. H. Prentice	Iaeger
20th,	S. T. Lambert	Matewan
21st,	J. F. White	Logan
22nd,	C. E. Foster	St. Albans
	C. O. Morris, director of mine rescue stations	Charleston
	J. R. McCune, inspector of sand mines, etc.	Martinsburg

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EVERY WEEK.

A Progressive Coal Trade Weekly Covering
All Branches of the Industry

15 Park Row New York, N. Y.

F. W. SAWARD, *Editor and General Manager*

Bituminous Coals Shipped by Railroads and Waterways in the United States in 1921*.

Route	State	Net Tons
Alabama Great Southern	Alabama	53,661
Alaska Railroad	Alaska	70,699
Arkansas Central	Arkansas	33,763
Ashland Coal & Iron	Kentucky	57,974
Atchison, Topeka & Santa Fe	Colorado	646,429
	Illinois	274,310
	Kansas	981,238
	Missouri	513,754
	New Mexico	1,404,589
	Oklahoma	58,973
		3,879,293
Baltimore & Ohio (including Coal & Coke)	Illinois	1,091,749
	Indiana	327,074
	Kentucky	50,762
	Maryland	5,089
	Ohio	8,555,117
	Pennsylvania	8,555,631
	West Virginia	11,556,463
		30,141,885
Bessemer & Lake Erie	Pennsylvania	2,541,271
Bevier & Southern	Missouri	297,206
Buffalo & Susquehanna	Pennsylvania	1,032,385
Buffalo Creek & Gauley	West Virginia	493,210
Buffalo, Rochester & Pittsburgh	Pennsylvania	3,391,693
Cambria & Indiana	Pennsylvania	1,720,385
Campbell's Creek	West Virginia	529,718
Carolina, Clinchfield & Ohio	Kentucky	29,017
	Virginia	1,815,912
		1,844,929
Caseyville	Illinois	25,146
Central of Georgia	Alabama	614,809
	Georgia	18,765
		633,564
Chaffee	Maryland	54,279
Cheat Haven & Bruceton	West Virginia	147,165
Chesapeake & Ohio	Kentucky	1,788,799
	West Virginia	21,440,295
		23,229,094
Cheswick & Harmar	Pennsylvania	239,539
Chicago & Alton	Illinois	3,376,432
	Missouri	161,081
		3,537,513

*Roads carrying under 25,000 tons omitted.

(*Continued on page 220*)

TELEPHONE
4200 WHITEHALL

Established 1900

PATTISON & BOWNS

INCORPORATED

Anthracite

"The Pennsylvania Coal Co's"
PITTSTON

COAL

P. & B. INC.
EFFICIENCY
BITUMINOUS

Bituminous

General Offices

Whitehall Building 17 Battery Place

New York

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Moritz Rosenthal,
Ladenburg, Thalman & Company.

Harry N. Taylor, President, U. S. Distributing Corporation.

Route	State	Net Tons
Chicago & Eastern Illinois	Illinois	4,542,644
	Indiana	5,143,649
		9,086,293
Chicago & Illinois Midland	Illinois	2,210,753
Chicago & Northwestern	Illinois	3,714,150
	Iowa	405,328
	Wyoming	240,552
		5,257,900
Chicago, Burlington & Quincy	Colorado	418,620
	Illinois	11,535,435
	Iowa	405,328
	Missouri	449,210
	Wyoming	1,417,059
		14,225,652
Chicago Great Western	Iowa	13,989
Chicago, Indianapolis & Louisville	Indiana	1,240,954
Chicago, Milwaukee & St. Paul	Illinois	556,765
	Indiana	4,157,073
	Iowa	513,231
	Missouri	50,250
	Montana	641,931
	North Dakota	87,999
	South Dakota	450
	Washington	172,130
		6,179,829
Chicago, Peoria & St. Louis	Illinois	352,101
Chicago, Rock Island & Pacific	Arkansas	86,718
	Colorado	27,574
	Illinois	50,882
	Iowa	736,552
	Missouri	15,253
	Oklahoma	926,775
	Texas	51,117
		1,894,871
Chicago, Terre Haute & Southeastern	Indiana	86,229
Cincinnati, Indianapolis & Western	Illinois	136,124
	Indiana	32,197
		178,321
Cincinnati, New Orleans & Tex. Pacific	Kentucky	11,412
	Tennessee	174,149
		185,561
Cleveland, Cincinnati, Chicago & St. Louis	Illinois	5,646,545
	Indiana	900,811
		6,547,356
Colfax Northern	Iowa	83,846
Colorado & Southern	Colorado	2,680,047
Colorado & Wyoming	Colorado	349,939
Colorado, Wyoming & Eastern	Colorado	42,092

(*Continued on page 222*)

WHITE OAK COAL COMPANY

Macdonald, West Va.

Sales and Distributing Agents for the
New River Company's Famous

"WHITE OAK" SMOKELESS COAL
LUMP, EGG, STOVE, MINE RUN, SMITHING

Shipments 10,000 tons daily.

TIDEWATER, BUNKER AND EXPORT SHIPMENTS
LAKE AND ALL RAIL SHIPMENTS
EAST, WEST AND SOUTH

A high grade Smokeless Coal, of a lumpy structure, clean and free from impurities.

It is high in Carbon, very low in Volatile and Ash, runs less than one per cent in Sulphur and will not clinker.

It is the most carefully prepared and most rigidly inspected coal coming out of the famous New River Smokeless Coal field of West Virginia, and in the lump, egg and stove sizes makes an ideal domestic fuel. The leading retailers in every community will invariably be found to be handling "WHITE OAK."

C. B. EBBERT, Manager of Sales
2 Rector Street, New York

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C. H. Sprague & Son Co.

101 Milk St., Boston, Mass.

Phone, Main 4922

NEW RIVER—BY-PRODUCTS—GAS

COAL

Tidewater Agents for

LOGAN COUNTY COAL CORP.

BRANCH OFFICES and WHARVES:
Providence, R. I.; Searsport, Me.; Newport News, Va.

SHIPPING PORTS:
Sewalls Point, Va., and Newport News, Va.

HAMPTON ROADS AGENT:
R. T. Pullen, Chesapeake & Ohio Bldg., Newport News, Va.

CABLE ADDRESS:
"Sprague," Newport News and Boston

Route	State	Net Tons
Cumberland	Kentucky	137,752
Cumberland & Manchester	Kentucky	131,584
Cumberland & Pennsylvania	Maryland	1,169,600
	Pennsylvania	7,320
		1,176,920
Denver & Intermountain	Colorado	113,771
Denver & Rio Grande Western	Colorado	2,386,111
	New Mexico	15,766
	Utah	2,620,100
		5,021,977
Denver & Salt Lake	Colorado	826,207
Detroit, Bay City & Western	Michigan	28,615
Detroit, Toledo & Ironton	Ohio	74,637
East Broad Top	Pennsylvania	267,985
Eastern Ry. & Lumber Co.	Washington	27,925
East St. Louis & Suburban	Illinois	429,198
Elgin, Joliet & Eastern	Illinois	162,737
El Paso & Southwestern	New Mexico	661,904
Erie	Ohio	104,606
	Pennsylvania	1,627,428
		1,732,034
Evansville, Indianapolis & Terre Haute	Indiana	944,092
Evansville Suburban & Newburgh	Indiana	159,454
Federal Valley	Ohio	138,516
Fort Dodge, Des Moines & Southern	Iowa	52,713
Fort Smith & Western	Oklahoma	72,429
Galveston, Harrisburg & San Antonio	Texas	27,057
Great Northern	Montana	661,309
	North Dakota	156,893
	Washington	24,056
		842,258
Greenbrier & Eastern	West Virginia	57,271
Harriman & Northeastern	Tennessee	155,812
Hartland Colliery	West Virginia	29,209
Hocking Valley	Ohio	2,768,459
Houston & Texas Central	Texas	104,134
Houston East & West Texas	Texas	53,715
Huntingdon & Broad Top Mountain	Pennsylvania	396,581
Illinois Central	Alabama	52,189
	Illinois	13,755,836
	Indiana	445,430
	Kentucky	3,860,429
		18,113,884
Illinois Traction	Illinois	712,820
Indian Creek Valley	Pennsylvania	271,717
International & Great Northern	Texas	152,072
Interstate	Virginia	1,619,382

(Continued on page 224)

141 Milk Street

ATLANTIC COAL COMPANY OF MASSACHUSETTS

Boston, Mass.

NEW ENGLAND DISTRIBUTORS

Berwind's New River Coal

CARGOES, CARLOADS, LIGHTER LOADS

Shipping Piers: Fall River, Mass.

HANNA ANTHRACITE

Tide-Water and All Rail

The Only Genuine **FRANKLIN COAL OF LYKENS VALLEY**

LYKENS SEAM RED ASH—SUSQUEHANNA WHITE ASH

AMBRICOAL

MADE FROM LYKENS VALLEY COAL—TRY ONCE—BUY ALWAYS

Uniform in Size—For Heater—Stove—Grate

NO BONE	*ALL*	MEANS
NO SLATE	*TOGETHER*	QUICK KINDLING
NO CLINKERS	*A*	QUICK FIRE
NO SMOKE	*SATISFIED*	PROMPT MEALS
NO SOOT	*HOUSEHOLD*	EASY SERVICE

Route	State	Net Tons
Interurban	Indiana	500
	Iowa	211,055
		211,555
Iowa & St. Louis	Missouri	48,247
Iowa Southern Utilities	Iowa	63,880
Johnstown & Stony Creek	Pennsylvania	371,666
Kanawha & Michigan	Ohio	756,913
	West Virginia	1,874,666
		2,631,579
Kanawha & West Virginia	West Virginia	38,474
Kanawha, Glen Jean & Eastern	West Virginia	388,069
Kansas City Northwestern	Missouri	32,000
Kansas City Southern	Kansas	288,418
	Missouri	122,502
	Oklahoma	103,974
		514,894
Kansas, Oklahoma & Gulf	Oklahoma	305,534
Kelly's Creek	West Virginia	237,058
Kentucky & Tennessee	Kentucky	526,934
Kentucky Midland	Kentucky	79,938
Lake Erie, Franklin & Clarion	Pennsylvania	404,713
Ligonier Valley	Pennsylvania	865,462
Litchfield & Madison	Illinois	718,205
Long Fork	Kentucky	357,753
Louisville & Nashville	Alabama	2,709,803
	Illinois	905,130
	Kentucky	18,634,962
	Tennessee	653,249
	Virginia	35,147
		22,938,291
Mary Lee	Alabama	283,317
Michigan Central	Michigan	631,491
Midland Valley	Arkansas	244,689
	Oklahoma	154,789
		399,478
Millers Creek	Kentucky	350,148
Minneapolis & St. Louis	Illinois	868,104
	Iowa	264,350
		1,132,454
Minneap., St. Paul & Sault Ste. Marie	North Dakota	197,059
Missouri-Illinois	Illinois	184,066
Missouri, Kansas & Texas	Kansas	143,277
	Missouri	105,073
	Oklahoma	803,434
	Texas	263,747
		1,315,531
Missouri Pacific	Arkansas	568,481
	Illinois	2,974,790

(*Continued on page 226*)

DICKSON & EDDY

ESTABLISHED 1890

17 Battery Place, New York City

Anthracite COAL Bituminous

SCRANTON COAL COMPANY
WEST END COAL COMPANY
PRICE-PANCOAST COAL COMPANY

HIGHEST GRADE
BITUMINOUS COALS
FOR ALL PURPOSES

BRANCH OFFICE: 60 CONGRESS STREET, BOSTON, MASS.

WITTENBERG COAL CO.

11 BROADWAY, NEW YORK

SUPERIOR BUNKER and STEAM COALS

WITTENBERG'S ACME—POCAHONTAS—NEW RIVER

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EUROPEAN AGENTS: Harrisons (London), Ltd., 66 Mark Lane, London, Eng.
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Gas Coal — BITUMINOUS COALS — Coke

WYNKOOP COAL MINING CO. INC.

"Solar" Smokeless — "Solar" Smithing

149 BROADWAY NEW YORK
TEL. CORTLANDT 8130 8131

Route	State	Net Tons
Missouri Pacific	Kansas	714,231
	Missouri	754,363
	Oklahoma	3,500
		5,015,365
Mobile & Ohio	Alabama	202,780
	Illinois	1,495,771
		1,698,551
Monongahela	Pennsylvania	3,161,218
	West Virginia	2,458,118
		5,619,336
Montana, Wyoming & Southern	Montana	429,309
Montour	Pennsylvania	3,142,784
Morgan & Fentress	Tennessee	83,427
Morgantown & Kingwood	West Virginia	133,667
Morgantown & Wheeling	West Virginia	1,385,948
Nashville, Chattanooga & St. Louis	Alabama	811
	Tennessee	976,509
		977,320
New Haven & Dunbar	Pennsylvania	74,791
New Mexico Midland	New Mexico	77,281
New York Central	Michigan	9,200
	Ohio	1,852,546
	Pennsylvania	5,334,169
		7,195,915
Norfolk & Western	Kentucky	2,073,641
	Ohio	1,806
	Virginia	2,060,967
	West Virginia	17,985,796
		22,122,210
Northern Alabama	Alabama	523,739
Northern Pacific	Montana	759,795
	North Dakota	258,999
	Washington	1,572,837
		2,591,631
Oregon Short Line	Wyoming	1,224,188
Oregon-Wash. R. R. & Navigation Co.	Washington	254,694
Pacific Coast	Washington	160,146
Pennsylvania System:		
Includes Pittsburgh, Cincinnati & St. Louis, Ohio River & Western, and Wheeling Terminal	Illinois	981,192
	Indiana	4,447,463
	Ohio	7,690,760
	Pennsylvania	48,410,234
	West Virginia	732,778
		62,262,427
Peoria & Pekin Union	Illinois	548,508
Peoria Railway Terminal	Illinois	308,046

(Continued on page 228)

LEHIGH VALLEY COAL SALES CO.

shippers of

LEHIGH VALLEY ANTHRACITE

The Coal That Satisfies

WYOMING HAZLETON LEHIGH
PACKER CROSS CREEK

G. N. WILSON, *President*
W. R. EVANS, *Vice-Pres. and Genl. Sales Agent*

GENERAL OFFICES:

90 WEST STREET NEW YORK

Route	State	Net Tons
Pere Marquette	Michigan	389,483
Pittsburgh & Lake Erie	Pennsylvania	3,377,585
Pittsburg & Shawmut	Pennsylvania	1,515,880
Pittsburgh & Susquehanna	Pennsylvania	78,808
Pittsburgh & West Virginia	Ohio	136,216
	Pennsylvania	1,290,218
	West Virginia	261,596
		1,688,030
Pittsburgh, Chartiers & Youghiogheny	Pennsylvania	759,392
Pittsburgh, Lisbon & Western	Ohio	35,059
	Pennsylvania	115,644
		156,703
Pittsburg, Shawmut & Northern	Pennsylvania	344,200
Puget Sound Electric	Washington	62,414
Rio Grande & Eagle Pass	Texas	48,880
Rio Grande Southern	Colorado	75,879
Rock Island Southern	Illinois	155,356
Rural Valley	Pennsylvania	507,682
St. Louis & Belleville Electric	Illinois	334,344
St. Louis & O'Fallon	Illinois	928,367
St. Louis-San Francisco	Alabama	1,766,184
	Arkansas	237,133
	Kansas	1,074,379
	Missouri	219,032
	Oklahoma	758,483
		4,055,211
St. Louis Southwestern	Texas	86,903
St. Louis, Troy & Eastern	Illinois	957,072
San Antonio Southern	Texas	29,070
Sandy Valley & Elkhorn	Kentucky	966,823
Santa Fe, Raton & Eastern	New Mexico	149,587
Sewell Valley	West Virginia	76,441
Southern	Alabama	2,363,504
	Illinois	843,012
	Indiana	1,198,235
	Kentucky	499,106
	Tennessee	1,422,145
	Virginia	1,258,882
		7,584,884
Southern Illinois Ry. & Power Co.	Illinois	25,000
Springfield Terminal	Illinois	366,039
Tennessee	Tennessee	121,009
Tennessee Central	Tennessee	562,244
Tennessee Coal & Iron	Alabama	2,132,137
Texas & Pacific	Texas	68,950
Texas Short Line Ry.	Texas	42,000
Thomas & Sayreton	Alabama	213,143
Toledo & Ohio Central	Ohio	2,124,412

(*Continued on page 230*)

Philadelphia Boston Pittsburgh Buffalo Cincinnati, Ohio Altoona
Mauch Chunk Norton, Va. Charleston, S. C.

WHITNEY & KEMMERER

143 Liberty St., New York

MINERS & SHIPPERS

STEAM COAL	GAS COAL	COKE	
Lilly (Smithing)	Westmoreland	Connellsville	Furnace
Somerset	Youghiogheny	Fairmont	Foundry
Clearfield	Fairmont	Latrobe	Crushed
New River	Kanawha		
Pocahontas	Wise County, Va	Wise County, Va.	

West Virginia Coal & Coke Company's Copen and Hiawatha Gas and Steam

Exclusive Selling Agents

Rich Hill Coal Co., (Cambria Co., Pa.)
Superior Fuel Co., (Bessemer Field)
Wise Coal & Coke Co., (Wise Co., Va.)

Also shippers of following

HIGH-GRADE ANTHRACITE

Alden	Sandy Run
Mt. Jessup	Scranton
Schuykill	Langcliffe

KINGSTON COAL CO'S

Kingston

LEHIGH & WILKES-BARRE COAL CO'S

Honey Brook, Wilkes-Barre, Plymouth

PHILADELPHIA & READING COAL & IRON CO'S

Reading Coals

Shipments to all points—Tidewater, Lake and all Rail

Route	State	Net Tons
Toledo, Peoria & Western	Illinois	152,559
Toledo, St. Louis & Western	Illinois	418,811
	Indiana	1,500
		420,311
Union	Pennsylvania	168,181
Union Pacific	Colorado	823,296
	Kansas	32,301
	Utah	53,014
	Wyoming	3,993,366
		4,901,977
Unity	Pennsylvania	298,439
Utah	Utah	995,547
Virginia	Virginia	15,888
	West Virginia	5,774,902
		5,790,790
Wabash	Illinois	2,157,522
	Iowa	243,226
	Missouri	396,085
		2,796,833
Wabash, Chester & Western	Illinois	244,761
Washington Run	Pennsylvania	259,121
Western Allegheny	Pennsylvania	148,536
Western Maryland	Maryland	508,800
	Pennsylvania	437,505
	West Virginia	2,318,744
		3,265,049
West Side Belt	Pennsylvania	1,063,098
West Virginia Northern	West Virginia	191,261
Wheeling & Lake Erie	Ohio	4,291,329
Williamson & Pond Creek	Kentucky	64,354
Winifrede	West Virginia	53,852
Woodstock & Blocton	Alabama	144,539
Woodward Iron Co	Alabama	653,092
Youngstown & Ohio River	Ohio	245,300
Zanesville & Western	Ohio	953,247
Total railroad shipments		371,327,621
WATERWAY		
Allegheny River	Pennsylvania	116,332
Green River	Kentucky	89,063
Kanawha River	West Virginia	394,290
Monongahela River	Pennsylvania	9,654,665
Ohio River	Indiana	5,231
	Kentucky	274,446
	Ohio	48,702
	West Virginia	68,296
		396,675
Warrior River	Alabama	61,178
Total waterway shipments		10,736,115
Grand total		382,063,736

LEHIGH & WILKES-BARRE COAL CO.

Miners and Shippers of

ANTHRACITE COAL

Honey Brook
Lehigh

Wilkes-Barre
Free Burning

Plymouth
Red Ash

The Sign of Quality

ALL RAIL AND TIDEWATER SHIPMENTS

Shipping Wharves:—Pier 18, Jersey City

DANIEL ANTHONY, Vice-President and General Agent
H. F. WILSON, Asst. General Agent
143 Liberty Street, New York

A. W. ROBERTSON, Line Agent, Elizabeth, New Jersey

LEHIGH & WILKES-BARRE COAL COMPANY OF NEW JERSEY

A. DENITHORNE, - - - - - - - - - - - - President
48 Congress Street, Newark, N. J.

LEHIGH & WILKES-BARRE COAL COMPANY OF MASSACHUSETTS

WM. A. STAPLES, - - - - - - President and General Manager
141 Milk Street, Boston, Mass.

General Offices: 16 South River Street, Wilkes-Barre, Pa.

Cubic Area of Various Coals.

	Pounds in Cubic Feet	Cubic Feet Per Net Ton
Anthracite—		
Buckwheat	57.0	35.1
Chestnut	57.3	34.9
Egg	55.1	36.3
Egg, Small	55.7	35.9
Egg—Free Burning	56.07	35.69
Lehigh Broken	56.85	35.18
Lehigh Buckwheat	54.04	37.01
Lehigh Cupola	55.52	36.02
Lehigh Dust	57.25	34.93
Lehigh Egg	57.74	34.63
Lehigh Lump	55.26	36.19
Lehigh Nut	58.26	34.32
Lehigh Pea	53.18	37.6
Lehigh Stove	58.15	34.39
Nut—Free Burning	56.88	35.16
Pea	54.8	36.5
Stove	56.0	35.7
Stove—Free Burning	56.33	35.5
Bituminous—		
Bell County, Ky., Lump	44.4	45.0
Bell County, Ky., Nut and Slack	53.4	37.4
Carterville Egg	51.8	38.6
Nut	46.1	43.4
Carterville No. 2 Washed Nut	48.1	41.6
Carterville 1½-inch Screenings	54.9	36.4
Cuba, Ill., Screenings	53.6	37.3
Franklin County, Ill., 6" Lump (Christopher)	47.8	41.8
Franklin County, Ill., Egg (Christopher)	47.9	41.8
Franklin County, Ill., Egg (Small)	43.5	46.3
Franklin County, Ill., Range (Zeigler)	45.9	44.3
Franklin County, Ill., Screenings	50.1	39.9
Schuylkill Anthracite, Buckwheat	59.6	33.6
Schuylkill Chestnut	58.6	34.1
Schuylkill Large Egg	53.7	37.2
Schuylkill Pea	55.	36.4
Schuylkill Range	58.5	34.2
Schuylkill Small Egg	55.	36.4
Scranton Buckwheat	57.6	34.7
Scranton Chestnut	57.4	34.8
Scranton Large Egg	57.1	35.
Scranton Range	54.5	36.7
Scranton Small Egg	56.6	35.3
Susquehanna Buck	53.9	37.1
Susquehanna Chest	56.1	35.7
Susquehanna Lar. Egg	54.7	36.6
Susquehanna Pea	54.6	36.6
Susquehanna Range	55.2	36.2
Susquehanna Small Egg	55.5	36.
Maryland Smithing (Georges Creek)	64.4	31.1
Ohio Cannel	49.18	40.66
Pike County, Ind., 1¼" Screenings	53.2	37.6
Pike County, Indiana, Washed Nut	45.7	43.8
Pike County, Indiana, Mine Run	51.0	39.2
Pocahontas Egg and Lump	52.27	38.28
Pocahontas Mine Run	59.6	33.6
Pittsburgh	46.48	43.03
Saline County, Ill., Screenings	52.8	37.9
Sangamon County, Ill., No. 4 Washed Nut	44.8	44.6
Sangamon County, Ill., Washed screenings	50.1	39.9
So. Wilmington W., Nut and Pea	48.8	40.9

(Continued on page 234)

PENNSYLVANIA COAL & COKE CORPORATION

PARDEE WEBSTER

STEAM COALS

WEBSTER SELECTED
SMITHING COAL

BUNKER CONTRACTORS

Shipping Piers
- NEW YORK—Port Liberty, Pier 18, South Amboy and Port Reading.
- PHILADELPHIA—Port Richmond and Greenwich.
- BALTIMORE—Canton Piers.

17 BATTERY PLACE, NEW YORK

PHILADELPHIA, Land Title Bldg. BOSTON, 141 Milk St.
HARTFORD, 36 Pearl St. SYRACUSE, Union Bldg.
BALTIMORE, Continental Bldg.

LONDON, ENGLAND, HULL BLYTH & Co., *Ltd.*, 1 Lloyd's Avenue.

	Pounds in Cubic Feet	Cubic Feet Per Net Ton
Fulton County, Ill., Screenings (Cuba)	53.1	37.3
Green County, Indiana, Mine Run	53.3	37.5
Grundy County, Ill., Nut Pea (washed)	48.8	40.9
Harlan County, Ky., Lump	44.4	45.0
Harlan County, Ky., Nut Pea (washed)	48.8	40.9
Harrisburg Screenings	52.8	37.9
Hocking Lump	50.2	39.8
Illinois, Typical	47.22	42.35
Indiana Block	43.	46.5
Iowa Lump	46.51	43.
Iowa Screenings	49.3	40.5
Jackson, Ohio, Lump	54.2	36.9
Kentucky Dean Seam, Lump and Egg	49.8	40.2
Knox Co., Ky., Egg	49.7	40.2
Knox Co., Ky., Lump	49.8	40.2
Knox County, Ky., Nut and Slack	52.2	38.3
Knox County, Indiana, Screenings	49.9	40.0
McDowell County, W. Va., Lump (Splint)	46.4	43.1
McDowell County, W. Va., Lump	53.4	37.5
McDowell Mine Run (Pocahontas)	56.9	33.6
Splint Block	46.4	43.1
Tenn. Nut and Pea (Washed)	46.8	42.7
Vermilion County, Indiana, Egg (Forked)	42.6	46.9
Vermilion County, Ind., Egg (Shoveled)	44.5	44.9
Vermilion County, Ind., Lump (Forked)	45.0	43.4
Vermilion County, Indiana, Nut	47.0	42.6
Vermilion County, Indiana, Mine Run	58.9	34.0
Vermilion County, Indiana, Screenings	53.2	37.6
Vigo County, Indiana, Mine Run	49.2	40.6
Williamson County, Ill., 1½" Screenings	54.9	36.4
Williamson County, Ill., No. 2 Washed nut	48.1	41.6
Williamson County, Ill., No. 4 Washed Nut	46.1	43.4
Williamson County, Ill., No. 5 Washed Nut	45.5	44.0
Williamson County, Ill., Egg (Carterville)	51.8	38.0
Williamson County, Ill., Nut (Washed)	49.1	40.7
Youghiogheny ¾" Lump	66.8	29.9
Charcoal—		
Hardwood	19.	105.25
Pine	18.	111.11
Egg-Solvay	28.6	69.9
Coke	28.	71.43
Chestnut-Solvay	31.9	62.6
Connellsville	26.3	76.04

On December 31, 1923, 899 cars—61,509 tons of coal—were dumped over the piers at Lambert Point, Norfolk, Va. This is equivalent to one car dumped every 1.6 minutes on an average for a twenty-four-hour day. This is not only the record for the Norfolk & Western, but is also a world's record, being the largest dumping of coal by any coal-dumping plant in the world for the twenty-four-hour period.

CELEBRATED

LACKAWANNA

ANTHRACITE

MAKES WARM FRIENDS

1823

1924

THE HUDSON COAL COMPANY

SCRANTON, PA.

D. F. WILLIAMS
Vice President and General Sales Agent

W. F. SHURTLEFF
Assistant General Sales Agent

C. B. FILLMORE
Assistant General Sales Agent

Gross and Net Prices; 50 Cents to $15.00

The light figures represent price per gross ton (2,240 lbs.) The black figures will give corresponding price per net ton (2,000 lbs.).

Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
$.50	$.45	$.95	$.85	$1.40	$1.25	$3.25	$2.90	$5.50	$4.91	$7.75	$6.92
.51	.46	.96	.86	1.41	1.27	3.30	2.95	5.55	4.96	7.80	6.96
.52	.46	.97	.87	1.42	1.28	3.35	2.99	5.60	5.00	7.85	7.01
.53	.47	.98	.88	1.43	1.29	3.40	3.04	5.65	5.04	7.90	7.05
.54	.48	.99	.88	1.44	1.29	3.45	3.08	5.70	5.09	7.95	7.10
.55	.49	1.00	.89	1.45	1.29	3.50	3.13	5.75	5.13	8.00	7.14
.56	.50	1.01	.90	1.46	1.30	3.55	3.17	5.80	5.18	8.05	7.19
.57	.51	1.02	.91	1.47	1.31	3.60	3.21	5.85	5.22	8.10	7.23
.58	.52	1.03	.92	1.48	1.32	3.65	3.26	5.90	5.27	8.15	7.28
.59	.53	1.04	.93	1.49	1.33	3.70	3.30	5.95	5.31	8.20	7.32
.60	.54	1.05	.94	1.50	1.34	3.75	3.35	6.00	5.36	8.25	7.37
.61	.54	1.06	.95	1.55	1.38	3.80	3.39	6.05	5.40	8.30	7.41
.62	.55	1.07	.96	1.60	1.43	3.85	3.44	6.10	5.45	8.35	7.46
.63	.56	1.08	.96	1.65	1.47	3.90	3.48	6.15	5.49	8.40	7.50
.64	.57	1.09	.97	1.70	1.52	3.95	3.53	6.20	5.54	8.45	7.54
.65	.58	1.10	.98	1.75	1.56	4.00	3.57	6.25	5.58	8.50	7.59
.66	.59	1.11	.99	1.80	1.61	4.05	3.62	6.30	5.62	8.55	7.63
.67	.60	1.12	1.00	1.85	1.65	4.10	3.66	6.35	5.67	8.65	7.72
.68	.61	1.13	1.01	1.90	1.70	4.15	3.71	6.40	5.71	8.70	7.77
.69	.62	1.14	1.02	1.95	1.74	4.20	3.75	6.45	5.76	8.75	7.81
.70	.63	1.15	1.03	2.00	1.79	4.25	3.79	6.50	5.80	8.60	7.68
.71	.63	1.16	1.04	2.05	1.83	4.30	3.84	6.55	5.85	8.80	7.86
.72	.64	1.17	1.04	2.10	1.88	4.35	3.88	6.60	5.89	8.85	7.90
.73	.65	1.18	1.05	2.15	1.92	4.40	3.93	6.65	5.94	8.90	7.95
.74	.66	1.19	1.06	2.20	1.96	4.45	3.97	6.70	5.98	8.95	7.99
.75	.67	1.20	1.07	2.25	2.01	4.50	4.02	6.75	6.03	9.00	8.04
.76	.68	1.21	1.08	2.30	2.05	4.55	4.06	6.80	6.07	9.05	8.08
.77	.69	1.22	1.09	2.35	2.10	4.60	4.11	6.85	6.12	9.10	8.13
.78	.70	1.23	1.10	2.40	2.14	4.65	4.15	6.90	6.16	9.15	8.17
.79	.71	1.24	1.11	2.45	2.19	4.70	4.20	6.95	6.21	9.20	8.23
.80	.71	1.25	1.12	2.50	2.23	4.75	4.24	7.00	6.25	9.25	8.26
.81	.72	1.26	1.13	2.55	2.28	4.80	4.29	7.05	6.29	9.30	8.30
.82	.73	1.27	1.13	2.60	2.32	4.85	4.33	7.10	6.34	9.35	8.35
.83	.74	1.28	1.14	2.65	2.37	4.90	4.38	7.15	6.38	9.40	8.39
.84	.75	1.29	1.15	2.70	2.41	4.95	4.42	7.20	6.43	9.45	8.44
.85	.76	1.30	1.16	2.75	2.46	5.00	4.46	7.25	6.47	9.50	8.48
.86	.77	1.31	1.17	2.80	2.50	5.05	4.51	7.30	6.52	9.55	8.53
.87	.78	1.32	1.18	2.85	2.54	5.10	4.55	7.35	6.55	9.60	8.57
.88	.79	1.33	1.19	2.90	2.59	5.15	4.60	7.40	6.61	9.65	8.62
.89	.80	1.34	1.20	2.95	2.63	5.20	4.64	7.45	6.65	9.70	8.66
.90	.80	1.35	1.21	3.00	2.68	5.25	4.69	7.50	6.70	9.75	8.71
.91	.81	1.36	1.21	3.05	2.72	5.30	4.73	7.55	6.74	9.80	8.75
.92	.82	1.37	1.22	3.10	2.77	5.35	4.78	7.60	6.79	9.85	8.79
.93	.83	1.38	1.23	3.15	2.81	5.40	4.82	7.65	6.83	9.90	8.84
.94	.84	1.39	1.24	3.20	2.86	5.45	4.87	7.70	6.88	9.95	8.88

(*Continued on page 238*)

Frederic A. Potts & Company, Inc.

ANTHRACITE

COAL

BITUMINOUS

General Office: 143 Liberty Street, NEW YORK

Boston Office: E. S. LARNED, 79 Milk Street

Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
$10.00	$8.93	$10.85	$9.69	$11.70	$10.45	$12.55	$11.22	$13.40	$11.97	$14.25	$12.72
10.05	8.97	10.90	9.73	11.75	10.49	12.60	11.25	13.45	12.01	14.30	12.76
10.10	9.02	10.95	9.78	11.80	10.54	12.65	11.29	13.50	12.06	14.35	12.81
10.15	9.06	11.00	9.82	11.85	10.60	12.70	11.34	13.55	12.10	14.40	12.86
10.20	9.11	11.05	9.87	11.90	10.63	12.75	11.38	13.60	12.14	14.45	12.90
10.25	9.15	11.10	9.91	11.95	10.67	12.80	11.42	13.65	12.19	14.50	12.94
10.30	9.20	11.15	9.96	12.00	10.72	12.85	11.47	13.70	12.24	14.55	12.99
10.35	9.24	11.20	10.00	12.05	10.76	12.90	11.52	13.75	12.28	14.60	13.04
10.40	9.29	11.25	10.05	12.10	10.80	12.95	11.56	13.80	12.32	14.65	13.07
10.45	9.33	11.30	10.09	12.15	10.85	13.00	11.60	13.85	12.37	14.70	13.10
10.50	9.38	11.35	10.14	12.20	10.90	13.05	11.65	13.90	12.42	14.75	13.16
10.55	9.42	11.40	10.18	12.25	10.94	13.10	11.69	13.95	12.46	14.80	13.22
10.60	9.47	11.45	10.22	12.30	10.98	13.15	11.74	14.00	12.50	14.85	13.26
10.65	9.51	11.50	10.27	12.35	11.03	13.20	11.78	14.05	12.54	14.90	13.30
10.70	9.56	11.55	10.31	12.40	11.08	13.25	11.83	14.10	12.58	14.95	13.35
10.75	9.60	11.60	10.36	12.45	11.12	13.30	11.88	14.15	12.63	15.00	13.38
10.80	9.64	11.65	10.40	12.50	11.17	13.35	11.92	14.20	12.68	15.05	13.43

Gross Tons Reduced to Net Tons and Pounds.

Cwt.			Cwt.			Cwt.		
Gross	Net	Lbs.	Gross	Net	Lbs.	Gross	Net	Lbs.
1	.01	112	8	.09	896	15	.17	1,680
2	.02	224	9	.10	1,008	16	.18	1,792
3	.03	336	10	.11	1,120	17	.19	1,904
4	.04	448	11	.12	1,232	18	1.00	2,016
5	.06	560	12	.13	1,344	19	1.01	2,128
6	.07	672	13	.15	1,456			
7	.08	784	14	.16	1,568			

Tons			Tons			Tons		
Gross	Net	Lbs.	Gross	Net	Lbs.	Gross	Net	Lbs.
1	1.02	2,240	19	21.06	42,560	37	41.09	82,880
2	2.05	4,480	20	22.08	44,800	38	42.11	85,120
3	3.07	6,720	21	23.10	47,040	39	43.14	87,360
4	4.10	8,960	22	24.13	49,280	40	44.16	89,600
5	5.12	11,200	23	25.15	51,520	41	45.18	91,840
6	6.14	13,440	24	26.18	53,760	42	47.01	94,080
7	7.17	15,680	25	28.00	56,000	43	48.03	96,320
8	8.19	17,920	26	29.02	58,240	44	49.06	98,560
9	10.02	20,160	27	30.05	60,480	45	50.08	100,800
10	11.04	22,400	28	31.07	62,720	46	51.10	103,040
11	12.06	24,640	29	32.10	64,960	47	52.13	105,280
12	13.09	26,880	30	33.12	67,200	48	53.15	107,520
13	14.11	29,120	31	34.14	69,440	49	54.18	109,760
14	15.14	31,360	32	35.17	71,680	50	56.00	112,000
15	16.16	33,600	33	36.19	73,920	51	57.02	114,240
16	17.18	35,840	34	38.02	76,160	52	58.05	116,480
17	19.01	38,080	35	39.04	78,400	53	59.07	118,720
18	20.03	40,320	36	40.06	80,640	54	60.10	120,960

(Continued on page 240)

Consolidation Service

The satisfaction expressed by plant managers with Consolidation Coal is due to a consumer service which is the culmination of fifty-nine years of experience in meeting consumer requirements.

This service begins at the ninety-eight mines of the Consolidation Coal Company and ends only at the consumer's plant.

It means the shipping of coal selected from the particular mine best qualified to meet the consumer's special needs.

It means Clean Coal—coal high in heat value, coal from which non-combustible wastes have been removed so far as possible.

It means technical guidance on correct firing practice.

Consolidation Coals for Every Purpose

Consolidation Elkhorn
Consolidation Pocahontas
Consolidation New River
Consolidation Fairmont
Consolidation Millers Creek Kentucky Block
Consolidation Georges Creek Big Vein Coal
Consolidation Jenner Smokeless

THE CONSOLIDATION COAL COMPANY

INCORPORATED

Munson Building, New York City

DETROIT, MICH., *First Nat'l. Bank Bldg.*
PORTSMOUTH, N. H., 13 *Market Street*
BALTIMORE, MD. *Continental Bldg.*
BOSTON, MASS. *State Mutual Bldg.*
PHILADELPHIA, PA. *Bankers Trust Bldg.*
WASHINGTON, D. C., *Union Trust Bldg.*
CHICAGO, ILL., *Illinois Merchants Bank Bldg.*
CINCINNATI, OHIO, *Union Central Bldg.*
NORFOLK, VA., *Nat'l Bank of Com. Bldg.*
CLEVELAND, OHIO *Rockefeller Bldg.*
MILWAUKEE, WIS., 843 *South Canal Street*

Foreign Offices { LONDON, ENGLAND, *Billiter Sq. Bldg.*
GENOA, ITALY, 10-*Via Roma*

Sales Agents { ST. PAUL, MINN. *North Western Fuel Co., Merchants Nat'l Bank Bldg.*
MONTREAL, QUEBEC, *Empire Coal Company, Ltd., Shaughnessy Bldg.*
GREEN BAY, WIS. *F. Hurlbut Company*
WAUKEGAN, ILL. *Waukegan Coal Company*

Tons		
Gross	Net	Lbs.
55	61.12	123,200
56	62.14	125,440
57	63.17	127,680
58	64.19	129,920
59	66.02	132,160
60	67.04	134,400
61	68.06	136,640
62	69.09	138,880
63	70.11	141,120
64	71.14	143,360
65	72.16	145,600
66	73.18	147,840
67	75.01	150,080
68	76.03	152,320
69	77.06	154,560
70	78.08	156,800
71	79.10	159,040
72	80.13	161,280
73	81.15	163,520
74	82.18	165,760
75	84.00	168,000

Tons		
Gross	Net	Lbs.
76	85.02	170,240
77	86.05	172,480
78	87.07	174,720
79	88.10	176,960
80	89.12	179,200
81	90.14	181,440
82	91.17	183,680
83	92.19	185,920
84	94.02	188,160
85	95.04	190,400
86	96.06	192,640
87	97.09	194,880
88	98.11	197,120
89	99.14	199,360
90	100.16	201,600
91	101.18	203,840
92	103.01	206,080
93	104.03	208,320
94	105.06	210,560
95	106.08	212,800
96	107.10	215,040

Tons		
Gross	Net	Lbs.
97	108.13	217,280
98	109.15	219,520
99	110.18	221,760
100	112.	224,000
200	224.	448,000
300	336.	672,000
400	448.	896,000
500	560.	1,120,000
600	672.	1,344,000
700	784.	1,568,000
800	896.	1,792,000
900	1008.	2,016,000
1,000	1120.	2,240,000
1,100	1232.	2,464,000
1,200	1344.	2,688,000
1,300	1456.	2,912,000
1,400	1568.	3,136,000
1,500	1680.	3,360,000
2,000	2240.	4,480,000
2,500	2800.	5,600,000

Table for Ascertaining the Price of a Number of Pounds at a Given Price per Ton of 2,000 Pounds.

Lbs.	$2.75	$3.00	$3.25	$3.50	$3.75	$4.00	$4.25	$4.50	$4.75	$5.00	$5.25
10	.01	.02	.02	.02	.02	.02	.02	.03	.03	.03	.03
20	.03	.03	.03	.04	.04	.04	.05	.05	.05	.05	.06
30	.04	.05	.05	.05	.06	.06	.07	.07	.07	.08	.08
40	.06	.06	.07	.07	.08	.08	.09	.09	.10	.10	.11
50	.07	.08	.08	.09	.09	.10	.11	.12	.12	.13	.13
60	.08	.09	.10	.11	.11	.12	.13	.14	.15	.15	.16
70	.10	.11	.11	.12	.13	.14	.15	.16	.17	.18	.19
80	.11	.12	.13	.14	.15	.16	.17	.18	.19	.20	.21
90	.12	.14	.15	.16	.17	.18	.19	.20	.22	.23	.24
100	.14	.15	.16	.18	.19	.20	.22	.23	.24	.25	.27
200	.28	.30	.33	.35	.38	.40	.43	.45	.48	.50	.53
300	.41	.45	.49	.53	.56	.60	.64	.68	.72	.75	.79
400	.55	.60	.65	.70	.75	.80	.85	.90	.95	1.00	1.05
500	.69	.75	.81	.88	.94	1.00	1.07	1.13	1.19	1.25	1.32
600	.83	.90	.98	1.05	1.13	1.20	1.28	1.35	1.43	1.50	1.58
700	.96	1.05	1.14	1.23	1.31	1.40	1.49	1.58	1.67	1.75	1.84
800	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00	2.10
900	1.24	1.35	1.46	1.58	1.69	1.80	1.92	2.03	2.14	2.25	2.37
1000	1.38	1.50	1.63	1.75	1.88	2.00	2.13	2.25	2.38	2.50	2.63
1100	1.51	1.65	1.79	1.93	2.06	2.20	2.34	2.48	2.62	2.75	2.89

(Continued on page 242)

BITUMINOUS
VICTOR
COAL
REGISTERED U.S. PATENT OFFICE

Produced in Central Pennsylvania Field

Low and Medium Volatile Semi-Bituminous

From mines in Clearfield, Cambria and Indiana Counties, developed and mechanically equipped for an output of four million tons annually.

Shipping to New England and Middle Atlantic States, via Pennsylvania Railroad and New York Central Railroad and their connections.

Tidewater deliveries at Canton Piers, Baltimore, Md., Port Richmond Piers, and Greenwich Piers, Philadelphia, Pa., Port Reading, South Amboy, Elizabethport, Port Liberty and Pier 18, Jersey City, New York Harbor.

ANTHRACITE COAL

Let us give you full particulars about our low and medium volatile select Semi-Bituminous Coals. Write or wire our nearest office.

PEALE, PEACOCK & KERR

One Broadway, New York North American Bldg., Philadelphia, Pa.

Operating Offices: St. Benedict, Cambria County, Pa.

Lbs.	$2.75	$3.00	$3.25	$3.50	$3.75	$4.00	$4.25	$4.50	$4.75	$5.00	$5.25
1200	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	3.00	3.15
1300	1.79	1.95	2.11	2.28	2.44	2.60	2.77	2.93	3.09	3.25	3.42
1400	1.93	2.10	2.28	2.45	2.63	2.80	2.98	3.15	3.33	3.50	3.68
1500	2.06	2.25	2.44	2.63	2.81	3.00	3.19	3.38	3.57	3.75	3.94
1600	2.20	2.40	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00	4.20
1700	2.34	2.55	2.76	2.98	3.19	3.40	3.62	3.83	4.04	4.25	4.47
1800	2.48	2.70	2.93	3.15	3.38	3.60	3.83	4.05	4.28	4.50	4.73
1900	2.61	2.85	3.09	3.33	3.56	3.80	4.04	4.28	4.52	4.75	4.99

In the Higher Prices.

Lbs.	$5.50	$5.75	$6.00	$6.25	$6.50	$6.75	$7.00	$7.25	$7.50	$7.75	$8.00
10	.03	.03	.03	.03	.03	.03	.04	.04	.04	.04	.04
20	.06	.06	.06	.06	.07	.07	.07	.07	.08	.08	.08
30	.08	.09	.09	.09	.10	.10	.11	.11	.11	.12	.12
40	.11	.12	.12	.13	.13	.14	.14	.15	.15	.16	.16
50	.14	.15	.15	.16	.16	.17	.18	.18	.19	.19	.20
60	.17	.18	.18	.19	.20	.20	.21	.22	.23	.23	.24
70	.19	.20	.21	.22	.23	.24	.25	.25	.26	.27	.28
80	.22	.23	.24	.25	.26	.27	.28	.29	.30	.31	.32
90	.25	.26	.27	.28	.29	.30	.31	.33	.34	.35	.36
100	.28	.29	.30	.31	.33	.34	.35	.36	.38	.39	.40
200	.55	.58	.60	.63	.65	.68	.70	.73	.75	.78	.80
300	.83	.87	.90	.94	.98	1.01	1.05	1.09	1.13	1.16	1.20
400	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60
500	1.38	1.44	1.50	1.56	1.63	1.69	1.75	1.81	1.88	1.94	2.00
600	1.65	1.73	1.80	1.88	1.95	2.03	2.10	2.18	2.25	2.33	2.40
700	1.93	2.02	2.10	2.19	2.28	2.36	2.45	2.54	2.63	2.71	2.80
800	2.20	2.30	2.40	2.50	2.60	2.70	2.80	2.90	3.00	3.10	3.20
900	2.48	2.59	2.70	2.81	2.93	3.04	3.15	3.26	3.37	3.49	3.60
1000	2.75	2.88	3.00	3.13	3.25	3.38	3.50	3.63	3.75	3.88	4.00
1100	3.03	3.17	3.30	3.44	3.58	3.72	3.85	3.99	4.13	4.27	4.40
1200	3.30	3.45	3.60	3.75	3.90	4.05	4.20	4.35	4.50	4.65	4.80
1300	3.58	3.75	3.90	4.07	4.23	4.39	4.55	4.72	4.88	5.04	5.20
1400	3.85	4.03	4.20	4.38	4.55	4.73	4.90	5.08	5.25	5.43	5.60
1500	4.13	4.32	4.50	4.69	4.88	5.07	5.25	5.44	5.63	5.82	6.00
1600	4.40	4.60	4.80	5.00	5.20	5.40	5.60	5.80	6.00	6.20	6.40
1700	4.68	4.89	5.10	5.32	5.53	5.74	5.95	6.17	6.38	6.59	6.80
1800	4.95	5.18	5.40	5.63	5.85	6.08	6.30	6.53	6.75	6.98	7.20
1900	5.23	5.47	5.70	5.94	6.18	6.42	6.65	6.89	7.12	7.37	7.60

Note—If price per ton is larger than amount given in table result can be secured by combining two amounts which together equal the price per ton used.

The many weeks during which loaded freight car movement exceeded one million lead up, naturally, to an average of nearly a million a week for 1923. The total is stated at 49,814,970, compared with 43,207,561 the preceding year, and 39,323,128 cars in 1921. In other words, more than ten million more cars were moved in 1923 than two years ago, an increase of more than 25 per cent.

The Lehigh Coal & Navigation Co.

Miners and Shippers 1820

For Over a Century 1924

Anthracite

The Best Since 1820

437 Chestnut St., Philadelphia, Pa.

D. & H. CANAL NOT A TOY

A Lot of Coal Carried on Old-Time Waterway Forty Years Ago.

An old-time traveler was reminded by last year's centennial celebration of the Delaware & Hudson Co., that the traffic on the canal of the company years ago was by no means a matter of slight consideration. We are very apt to surmise now that 40 or 50 years ago certain business features were small and insignificant, but it is a fact that the anthracite trade has not grown very fast and something like 40 years ago it was, in reality, half as great as it is now.

The Delaware & Hudson canal played an important part in the shipment of coal to eastern markets, and the activity thereon was often noticed by travelers on the New York, Ontario & Westery Ry. Traveling on the railroad from the Southeast to the Northwest one crossed at Summitville, the line of the D. & H. canal bound from Honesdale, located off to the Southwest, to Rondout, located over to the Northeast.

As the canal came up the valley of the Neversink it reached, at last, a point appropriately called Summitville before descending to the valley of the Rondout Creek, and this point formed a good crossing place for the O. & W. as it wound its way over the hills between the Hudson River and Lake Ontario.

As the trains ran along in close proximity to the canal for miles, many boats were to be seen, loaded and light, drawn by horses and mules making their way at the rate or two and one-half to three and one-half miles per hour. The tonnage carried in certain of the best years was as follows:

Year	Gross Tons	Year	Gross Tons
1881	1,776,591	1884	1,800,965
1882	2,008,908	1885	1,536,519
1883	2,052,869	1886	1,689,195

The above figures include a certain small amount to Honesdale for local sale and distribution.

At the end of 1886 a considerable business had developed via the N. Y., Lake Erie & Western connection with the New York & New England at Newburgh, and the next year the canal tonnage fell to 874,308 tons.

From that time on its prestige gradually waned, and it was abandoned about ten years later, but it will be realized with small boats, with 200 or 300 tons' capacity, many trips had to be made daily during the seven or eight months of navigation in order to transport to tidewater 2,000,000 tons of coal.

Reduction in Polish Coal Tax

The former 35 per cent tax on coal in Poland has been reduced to 25 per cent for Upper Silesia, 22 per cent for the Dabrowa field, 16 per cent for small mines, and 12 per cent for newly opened mines. Coal for export will enjoy an additional 5 per cent reduction. The reduction is a concession especially to Upper Silesian operators, in consideration of the payment of advance taxes, and is also influenced partly by the removal of the tax on coal in Germany which has prejudiced Polish exports.

The Delaware, Lackawanna & Western Coal Company

SOLE VENDERS OF

J. F. BERMINGHAM, President

H. A. SMITH, Vice-President

120 BROADWAY, NEW YORK

J. H. Abbott, Tidewater Sales Agent,
120 Broadway, New York.

S. G. Memory, Sales Agent,
Broad and Market, Newark, N. J.

A. W. Decker, Sales Agent,
Scranton Life Bldg., Scranton, Pa.

John J. Town, Sales Agent,
64 Martin Building, Utica, N. Y.

H. W. Marshall, Salesman,
1620 W. Fayette Street, Syracuse, N. Y.

Ogdensburg Coal & Towing Co.,
Sales Agents,
134 McCord Street, Montreal, Que.

E. H. Read, Sales Agent,
924 Prudential Bldg., Buffalo, N. Y.

W. B. Palmer, Sales Agent,
Fenobscot Building, Detroit, Mich.

Hedstrom-Schenck Coal Co., Sales Agents,
Old Colony Building, Chicago, Ill

Milwaukee-Western Fuel Co.,
Sales Agents,
14th Floor, Wells Bldg., Milwaukee, Wis.

North Western Fuel Co., Sales Agents,
Merchants' Natl. Bank Bldg., St. Paul.
Duluth, Minn. Superior, Wis.

The Weather at New York.

Official data regarding climatic conditions at New York since the establishment of the Weather Bureau is presented below. The table shows the mean (average) monthly and annual temperatures since the begining of 1871, also the normal temperature of each of the twelve months of the year. It will be seen that one year's weather is pretty much like another; taken as a whole, the law of averages operating to prevent any very radical departure from the normal annual temperature of 52 degrees.

Here are the details:

Monthly and Annual Mean Temperatures.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
1871....	30.4	31.8	43.6	53.6	60.8	69.1	71.9	73.0	60.8	54.9	39.3	29.7	51.6
1872....	29.4	30.3	28.9	47.3	61.1	70.6	76.0	75.5	65.2	55.3	40.4	27.4	50.6
1873....	28.1	28.8	35.6	45.7	56.0	68.8	73.5	71.4	64.9	56.3	37.3	36.3	50.2
1874....	34.5	31.4	38.0	41.3	58.2	70.0	73.6	70.6	68.1	55.1	42.8	33.8	51.4
1875....	25.3	23.2	32.6	42.6	58.5	67.5	72.7	71.9	64.4	52.3	38.9	33.0	48.6
1876....	33.9	31.8	35.2	46.1	58.0	70.7	76.4	72.5	61.8	49.7	44.5	25.1	50.5
1877....	27.6	35.6	36.6	48.0	59.0	68.8	73.8	74.3	66.2	56.6	45.5	39.3	52.6
1878....	32.1	34.6	43.8	52.7	58.2	65.8	74.6	72.9	67.0	57.4	43.6	32.4	52.9
1879....	26.8	27.6	38.4	45.9	60.8	68.8	73.1	70.9	63.2	59.8	43.1	37.3	51.3
1880....	39.8	36.3	35.7	48.7	64.8	70.7	73.2	70.7	65.7	53.8	39.7	27.7	52.2
1881....	25.8	29.5	36.9	46.0	60.2	64.2	72.6	73.1	72.2	59.1	46.3	40.7	52.2
1882....	30.5	35.6	39.8	46.1	53.5	68.2	73.8	71.7	66.9	58.5	41.7	32.2	51.5
1883....	27.8	31.4	33.6	46.6	59.1	69.5	73.3	70.8	63.1	53.7	45.0	33.7	50.6
1884....	26.2	35.1	37.5	47.6	58.8	68.7	70.1	71.5	69.6	56.1	43.2	34.6	51.6
1885....	29.2	23.1	29.7	47.7	56.2	67.3	74.2	70.8	64.1	54.5	44.8	36.0	49.8
1886....	25.8	28.5	36.9	50.3	58.5	65.6	72.9	71.0	67.1	56.5	45.3	30.8	51.0
1887....	30.1	33.7	34.3	47.7	62.9	68.2	76.7	71.4	63.1	54.7	43.7	36.1	51.9
1888....	26.0	31.8	32.9	48.4	59.8	71.8	72.6	74.8	66.2	51.2	46.8	36.0	51.5
1889....	37.6	28.0	41.5	51.6	62.0	70.4	73.5	71.5	65.8	52.0	46.9	41.4	53.5
1890....	40.2	40.4	37.5	51.0	60.6	70.4	73.4	72.3	66.8	55.5	45.9	31.4	53.8
1891....	34.7	37.5	37.8	52.0	59.9	69.6	70.8	73.6	70.1	54.2	43.8	41.8	53.8
1892....	30.3	33.0	34.6	49.9	59.4	72.0	74.8	73.9	66.0	55.4	42.6	31.3	51.9
1893....	23.3	29.6	36.2	47.8	59.0	69.4	74.8	74.4	64.4	57.6	44.2	35.1	51.3
1894....	34.6	29.6	44.5	49.6	60.8	70.6	76.1	72.8	69.8	57.2	42.2	36.8	53.7
1895....	30.1	25.2	36.4	47.7	59.4	70.0	70.8	73.8	69.7	51.0	46.0	36.9	51.4
1896....	27.6	30.2	32.1	50.4	63.8	66.5	73.4	73.0	64.8	51.9	48.0	32.1	51.2
1897....	29.4	32.6	39.2	48.6	59.3	65.2	72.8	71.0	65.4	56.3	44.1	35.8	51.6
1898....	32.2	33.0	43.7	46.8	56.6	68.9	74.1	74.3	68.9	57.6	44.6	34.4	52.9
1899....	30.8	26.9	38.4	49.6	61.0	72.2	73.8	73.6	65.2	58.2	45.4	36.4	52.6
1900....	33.2	31.6	35.0	51.1	60.8	71.4	76.4	76.8	70.8	60.8	48.7	35.2	54.3
1901....	31.5	25.6	38.6	49.4	58.6	71.4	78.1	75.6	68.4	56.0	39.7	34.4	52.3
1902....	29.2	28.5	44.0	50.6	60.2	68.2	73.6	71.4	65.9	56.9	50.0	32.2	52.6
1903....	30.6	34.4	47.5	52.2	64.1	64.0	74.2	69.2	65.4	56.6	41.4	30.1	52.5
1904....	24.1	25.0	36.4	46.4	63.6	69.2	73.6	72.2	65.9	53.3	41.4	28.2	49.9
1905....	27.5	24.6	40.0	49.8	60.5	68.8	75.4	72.2	66.8	56.9	43.8	37.7	52.0
1906....	37.3	31.2	34.9	51.7	61.8	71.5	74.8	75.3	70.2	56.1	44.9	32.7	53.5
1907....	32.2	24.4	40.8	45.0	55.3	66.2	74.8	72.0	67.8	52.5	45.2	37.8	51.2
1908....	32.0	28.1	41.4	50.6	61.3	71.6	76.8	72.5	67.8	59.6	44.7	35.2	53.5
1909....	33.2	37.3	38.3	49.5	60.4	70.5	73.4	71.6	65.6	53.2	47.7	31.4	52.7
1910....	32.4	31.4	44.7	54.0	60.2	68.0	77.8	72.2	68.4	58.2	41.6	28.0	53.1

(Continued on page 248)

The Philadelphia & Reading Coal & Iron Company

MINERS AND SHIPPERS OF

FAMOUS READING ANTHRACITE

Hard White Ash, Free Burning White Ash,
Shamokin, Lorberry, Red Ash,
Lykens Valley, North Franklin.

General Office, Reading Terminal, Philadelphia, Pa.
R. J. Montgomery, *Vice President and General Coal Agent*

Branch Offices:

New York	Boston	Buffalo	Chicago
Milwaukee	Minneapolis	St. Paul	Rochester
Baltimore	Washington	Reading	Detroit

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual.
1911....	34.8	31.4	37.6	48.2	63.6	68.3	76.0	71.8	66.6	55.6	41.4	39.2	52.9
1912....	23.5	28.4	36.8	49.0	60.7	68.4	74.0	70.7	65.9	58.5	46.6	38.5	51.8
1913....	40.0	30.9	44.0	51.0	60.2	69.2	75.0	72.7	64.6	58.2	46.9	38.8	54.3
1914....	31.4	25.3	35.8	46.6	63.6	67.6	71.1	73.7	66.2	59.0	44.0	31.5	51.3
1915....	34.1	35.2	36.4	53.4	57.7	66.6	72.5	70.4	69.0	56.7	45.4	33.5	52.6
1916....	35.4	27.7	32.2	47.1	59.8	64.2	73.8	73.6	66.0	57.2	44.8	33.8	51.3
1917....	32.4	27.8	38.7	47.2	**53.2**	68.3	74.1	74.6	63.0	52.0	41.2	**25.0**	49.8
1918....	**21.6**	29.6	41.2	49.8	64.0	66.4	72.7	74.8	62.8	58.6	45.7	39.0	52.2
1919....	35.2	34.7	42.0	48.8	61.0	69.7	74.0	70.2	66.5	58.4	41.4	30.0	52.8
1920....	24.1	29.1	40.6	47.7	57.8	67.6	72.5	72.8	67.4	60.4	44.2	37.8	51.8
1921....	33.6	34.8	48.3	55.0	60.4	70.3	76.2	70.9	71.0	56.2	45.0	33.8	54.6
Normal.	30.2	30.7	37.5	48.1	59.3	68.5	73.5	72.2	66.5	55.6	44.0	34.4	51.7
1922....	29.0	34.5	41.3	51.0	63.6	70.6	72.7	71.4	67.4	57.6	45.4	34.3	53.1
1923....	31.0	27.1	37.0	49.4	59.3	72.0	72.3	71.3	67.0	55.6	45.4	42.0	52.4

NOTE.—Highest and lowest monthly and annual mean temperatures in bold-face figures.

Temperature Extremes During 50 Years.

The coldest and warmest days on record for each month of the year are shown below:

	Maximum.			Minimum.		
	Degrees.	Year.	Day.	Degrees.	Year.	Day.
January	67	1890	12	— 6	1875	10
February	69	1890	5	— 7	1918	5
March	80	1921	21	3	1872	5
April	91	1915	27	12	1923	1
May	95	1895	31	34	1880	1
June	97	1899	6	45	1907	2
July	99	1898	3	50	1873	15
August	102	1918	7	51	1885	27
September	100	1881	7	39	1912	30
October	88	1881	1	29	1917	31
November	74	1882	1	7	1875	30
December	68	1891	23	—13	1917	30

It is in this table that great variations appear. There is surely a bewildering array of warm and cold days at various times in the year, the range for each month's extreme being from 52 to 81 degrees and the maximum for the winter months running high above the minimum for the summer months.

Shipping Board's Fuel Oil Consumption.

The total fuel oil consumption in 1922 of the United States Shipping Board was approximately 20,000,000 barrels. 17,500,000 barrels being produced in the United States and 2,500,000 barrels being of foreign production and which was bunkered at foreign ports. Incidentally, this 2,500,000 barrels represents approximately only 33 per cent of the total fuel bunkered abroad by our vessels, the other 67 per cent having been shipped from the United States and contiguous territory in United States tankers to foreign ports.

G. B. ST. GEORGE,
President

L. V. BERMINGHAM,
Secretary and Treasurer

Telephone
Cortland 1638

ST. GEORGE COAL CO.

149 BROADWAY,
NEW YORK

Anthracite
Bituminous

D., L. & W. COAL CO.
P. & R. COAL & IRON CO.
LEHIGH VALLEY COAL SALES CO.

SAULT CANAL COAL SHIPMENTS

Bituminous Tonnage Shows Ninety Per Cent Increase Over 1922 and Anthracite Gains in Even Larger Measure.

Official statistics of vessel movements through the Sault Canal in 1922 and 1923 show coal tonnage as follows:

Anthracite.

	United States Canal		Canadian Canal		Total	
	1922	1923	1922	1923	1922	1923
April	5,000	.....	....	.....	5,000	.....
May	....	239,360	2,100	2,100	2,100	241,460
June	....	296,138	....	....	....	296,138
July	6,052	349,424	....	4,500	6,052	353,924
August	....	222,741	....	9,982	....	232,723
September	10,805	72,461	....	1,000	10,805	73,461
October	267,744	200,600	....	....	267,744	200,600
November	281,746	230,250	....	8,550	281,746	238,800
December	97,000	48,900	....	....	97,000	48,900
Total	668,347	1,659,874	2,100	26,132	670,447	1,686,006

During the season of navigation the tonnage of anthracite passing through the "Soo" Canal increased 1,015,559 tons, compared with the movement of 1922.

Bituminous.

	United States Canal		Canadian Canal		Total	
Month	1922	1923	1922	1923	1922	1923
April	109,000	.....	.....	.....	109,000	.....
May	202,978	2,603,312	10	19,045	202,988	2,622,357
June	247,542	2,705,037	.....	22,700	247,542	2,727,737
July	160,850	2,757,269	11,515	14,440	172,365	2,771,709
August	184,501	2,557,659	720	21,566	185,221	2,579,225
September	2,338,405	1,908,669	15,340	36,675	2,353,748	1,945,344
October	2,678,099	1,999,719	10,825	31,365	2,688,924	2,031,084
November	2,439,756	902,506	14,980	15,743	2,454,736	1,918,249
December	368,100	113,600	7,950	.....	376,050	113,600
Total	8,729,231	16,547,771	61,340	161,534	8,790,571	16,709,305

Bituminous tonnage to the Northwest passing through the "Soo" canal during the season of 1923 increased 7,370,488 tons compared with 1922.

Total shipments of coal via this route during 1923 amounted to 18,395,311 tons compared with 9,468,018 tons in 1922, an increase of 8,927,293 tons, or 35.2 per cent.

Shipments through this channel during a term of years have been as below:

1912	14,931,594	1916	16,123,119	1920	14,156,259
1913	18,622,938	1917	18,298,853	1921	14,763,135
1914	14,487,221	1918	17,981,610	1922	9,468,018
1915	13,357,058	1919	13,874,951	1923	18,395,311

The Morrisdale Coal Co.

Miners and Shippers of

MORRISDALE BITUMINOUS STEAM COALS

Steamship Bunkering a Specialty

General Office:

Real Estate Trust Building, Philadelphia

New York:
No. 15 WHITEHALL ST.

London
LAMBERT BROS, Ltd.

MEEKER & CO.

143 Liberty Street

New York

ANTHRACITE

Tonnage, Value and Freight Through "Soo" Canal.

Year.	Total Value (Hard and Soft Coal).	Anthracite, Per Ton.	Bituminous, Per Ton.	Freight Per Ton.	Total Coal.
1887	$4,735,454	*$3.50	*$3.50	$0.90	1,352,987
1888	7,367,644	* 3.50	* 3.50	.70	2,105,041
1889	5,702,190	* 3.50	* 3.50	.47	1,629,997
1890	7,619,238	* 3.50	* 3.50	.45	2,176,925
1891	8,776,362	* 3.50	* 3.50	.43	2,507,532
1892	10,164,931	* 3.50	* 3.50	.41	2,904,266
1893	10,528,420	* 3.50	* 3.50	.40	3,008,120
1894	8,191,917	* 2.93	* 2.93	.40	2,797,184
1895	6,993,351	4.25	2.40	.37	2,574,362
1896	8,452,073	4.75	2.50	.32	3,023,340
1897	9,456,824	5.50	2.60	.30	3,039,172
1898	10,334,461	4.75	2.40	.25	3,776,450
1899	12,854,278	5.70	2.60	.46	3,940,887
1900	14,620,840	5.25	3.00	.44	4,486,977
1901	15,492,226	5.60	2.90	.38	4,593,136
1902	16,570,398	6.25	3.25	.45	4,812,478
1903	24,898,407	5.80	3.15	.53	6,937,633
1904	19,657,221	5.50	2.60	.40	6,454,869
1905	20,706,302	5.60	2.75	.33	6,509,056
1906	25,136,044	5.75	2.50	.35	8,739,630
1907	34,461,584	5.80	2.60	.31	11,400,095
1908	28,868,837	5.47	2.50	.30	9,902,460
1909	29,044,855	5.47	2.50	.31	9,940,026
1910	41,392,801	5.30	2.75	.31	13,513,727
1911	48,552,057	5.85	2.75	.31	15,332,876
1912	49,303,871	6.00	2.85	.30	14,931,594
1913	58,927,341	5.85	2.70	.30	18,622,938
1914	46,173,087	5.85	2.70	.30	14,487,221
1915	42,359,320	5.80	2.70	.30	13,357,058
1916	55,916,681	6.10	3.05	.30	16,123,119
1917	99,271,727	6.50	5.25	.45	18,298,853
1918	94,964,144	8.00	4.90	.48	17,981,610
1919	74,079,978	8.85	4.60	.42½	13,874,951
1920	119,000,000	11.00	8.00	.52	14,156,259
1921	95,000,000	11.50	5.50	.52	14,763,155
1922	70,500,000	10.75	7.20	.45	9,461,018
1923	102,429,800	11.20	5.00	.45	18,395,311

*Average price for Anthracite and Bituminous coal combined.

During 1923 the Colorado Fuel & Iron Co. produced 3,194,441 net tons of coal, of which 1,677,005 tons were sold commercially; 582,850 tons used at company plants and 762,598 tons were used in by-product coke ovens and 171,988 tons in beehive. Coke output was beehive 93,953 and by-product 448,355 tons, a total of 542,308 tons. In 1922 the company produced 3,175,948 tons of coal and 418,934 tons of coke.

PICKING TABLES

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POINTS OF HARD AND SOFT COALS

Comparison of Merits of the Two Fuels Is Officially Reviewed.

In connection with the Massachusetts Boycott proposition we find that the Commission which advanced this idea sizes up the respective merits of anthracite and bituminous as follows:

ANTHRACITE—Advantages: (a) Cleanliness, (b) little smoke, (c) easy control, (d) steady heat. Disadvantages: (a) High price, (b) monopolistic source of supply, (c) slow response to change of drafts, (d) high slate and ash content.

BITUMINOUS COAL—Advantages: (a) Low price, (b) competitive sources of supply, (c) quick response to change of drafts, (d) low percentage of inert matter. Disadvantages: (a) Dirty to handle, (b) more smoke, (c) more attention to fire and furnace necessary.

Of the theory that bituminous coal produces more smoke than anthracite does, the Commission has this to say:

"With the low volatile or smokeless bituminous properly burned there is no more smoke than with anthracite. The ash content is about one-half, and the heat unit value is nearly 20 per cent greater than in anthracite. The low volatile bituminous coal regions available to this market supply the finest coals in the world, and the only problem we have to solve in order to have a high-grade fuel to compete with anthracite is that of combustion."

Will Come Eventually.

There seems to be little doubt in the minds of the members of the Commission that the time will come when soft coal is in general use for domestic purposes, for its report continues:

"Bituminous coal will eventually form the basis of our future domestic fuel, and the smoke nuisance will not be a detriment to our health and welfare. The semi-bituminous coals sold in this market are advertised as 'smokeless coals'; this is true if they are properly burned. If the price of anthracite continues at its present high level, the demand for substitutes will be sufficient to support coking and briquetting plants that produce smokeless domestic fuel from bituminous coal."

Of the effect that propaganda has on the habits of the consumer, the Commission has much to say:

"There is unreasonable prejudice against soft coal on the part of most New England householders," it says. "Folk ways are difficult to change, and our habit of using anthracite has been carefully nurtured by those who would lose money if we should use any other fuel. While people will explain that soft coal cannot be used in the household they will admit that their opinion is based upon what some one has told them, or on an impracticable experiment during the strike of 1902. At that time the difference in price between the two coals was not great, nor was the anthracite indusry as well organized as at present; so that those who used bituminous coal regarded it entirely as a stop-gap fuel, and made little or no attempt to study the best methods of combustion.

"According to the United States Geological Survey more than one-half of the domestic coal consumed in the United States is bituminous, which is used almost exclusively by householders of the Middle and Western States."

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